Introductory Lecture
ON
THE PROGRESS OF GYNÆCOLOGY.

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GENTLEMEN,—During recent years the progress of medical science has been great and rapid. This has been the case in the several departments of medicine, surgery, and gynæcology. It is seen in the number of new instruments invented for scientific and clinical investigation; in the more ample and more accurate means at our command for diagnosis; in our more extensive and more detailed knowledge of the healthy and morbid changes which take place in the body and in the enunciation of pathological laws; in the discovery of new remedies and of the active principles of old ones; in the rejection of others which are proved to be inert and useless though transmitted to us surrounded with the halo of age and tradition; in the broader view taken of the treatment of disease, the discarding of routine and empirical treatment and "do something" therapeutics; in the perfection of the art of surgery; in our more intimate acquaintance with the natural history of disease; and in the development of hygiene and preventive medicine. To the public and the superficial observer progress has perhaps appeared greater and more marked in the art of surgery than in the sciences into which medicine is usually divided. And this is not unnatural, for the palpable character and rapidity of cures effected by means of a suitable operation, the sudden restoration of a lost faculty by the puncture of a needle or the removal of an opaque lens, the remodelling of a deformed and useless limb, the excision of a growth disfiguring the body, encumbering or interfering with its actions, or threatening life, are all achievements which the most listless must observe and the dullest appreciate. Palpable cures effected by mechanical means appeal with greater force to, and are more easily appreciated by, those ignorant of science, and, indeed, by many who profess to cultivate medicine, than do cures wrought slowly though equally surely and successfully by general treatment. The progress of the art of surgery during the last thirty years has been marvellous, so marvellous that Mr. Erichsen, standing here four years ago, said, "I believe we have reached something like finality in the manipulative art of surgery;" but marvellous as this progress has been, it has not surpassed that which has been made in the more scientific parts of medicine. The triumphs of the latter, however, unlike the brilliant achievements of the former, do not appeal directly to the senses, but address themselves to a faculty which the majority of mankind are loth to exercise. They must be sought for to be found and appreciated; for here we do not witness the snatching of a sinking patient from the grasp of death and his sudden restoration to more or less perfect health, as sometimes happens by means of the surgeon's skill, but we do witness the safe conduct of disease to a favourable issue, and we witness what is more and of far greater import to mankind than the dazzling conquests of the knife, for we witness the prevention and stamping out of some of the most virulent and fatal diseases. The steps by which this power—the power of preventing disease—has been acquired have been slow and laborious, but the acquisition of such is the ultimate and legitimate aim of medicine in all its branches. We study health that we may be enabled to recognise disease, and we study disease not only in order to relieve individual suffering or individual complaints, but also, and above all, to preserve the general health and avert general suffering. Decay and death we can never hope to prevent, yet it is our business and it is in our power to ward off both for a time and to prolong life. Medicine has now for years past entered upon that ultimate phase which is its highest development, and has assumed a preventive character. Gynæcology has not, in this respect at least, kept pace with general medicine, and yet it has made great and rapid strides onwards. I propose to-day to sketch briefly the progress which has already been made in this branch of medical science. I need not apologise for choosing this subject, for though it is not very long since gynæcology has taken its place with medicine and surgery as an object of special study, yet its importance in general practice and its bearing on certain social questions of the day are such that in future it must command far greater attention than it has in the past.

Gynæcology is the science which treats of the changes—healthy and morbid—which take place in the female body.

The subject is one which has attracted the attention of physicians and lawgivers from the remotest times. In some of the oldest writings we have—those of the Jews—are found hygienic laws defining the relations of the sexes to one another. These laws were for centuries opposed to the teaching of the medical schools, but, to our wonder, they appear to accord with the most recent discoveries in anatomy and physiology. In the earliest collections of writings on medicine—the Hippocratic—a special work is devoted to the consideration of diseases of women, and from the time of the Father of Medicine to the end of the sixth century of our era, many works were written on physic in which the subject was more or less fully treated. At that time the elements even of physiology were unknown, and curious, and to us preposterous, theories were invented to account for the ordinary phenomena of health and the symptoms of disease—theories based not on the observation and study of nature, but generated in the prolific imagination of their propounders—theories which, I regret to say, have influenced the study of gynæcology for centuries, and even at this day traces of their influence may be recognised in the teaching of some uterine pathologists and physiologists. At that time the uterus was regarded as an animal, possessing at least some of the attributes of a highly developed living creature. Aretæus, a physician of note, and a writer of great repute, who lived in the second century, said, "In the middle of the flanks lies the womb, a female viscus, closely resembling an animal, for it is moved of itself hither and thither in the flanks, also upwards in a direct line to the cartilage of the thorax, and also obliquely to the right and to the left, to the liver and to the spleen, and it is subject to a prolapsus downwards; and, in a word, it is altogether erratic. It delights also in fragrant smells and advances towards them, and it has an aversion to fetid smells, and flees from them, and on the whole the womb is like an animal within an animal." He further explains that "the uterus in woman is beneficial for purgation and parturition; but it is the common source of innumerable and bad diseases, for not only is it subject to ulcers, inflammation, and the fluor, but if the whole organ be suddenly carried upwards it causes sudden death." Though at that time, and indeed for many centuries after, the physiology of the pelvic organs of the female remained unknown, yet it is said that anatomy was zealously cultivated, and dissection constantly practised. From the description of the uterus given by Galen, however, it is evident that the organ was known only as it was found in the bodies of animals, and that the human uterus had never been the subject of anatomical investigation; for it is said to possess a neck having one canal and a body having two canals, and the reason assigned for this is the care which nature displayed in the preservation of the species. How far the pursuit of medical knowledge during the three centuries which followed the death of Hippocrates was followed according to the principles laid down by him, cannot now be definitely ascertained; but if it be no injustice to judge of the ancients by what is preserved to us of their writings (and it does not appear to be so, for in the works of Ætius, and of Paulus of Ægina, is doubtless to be found the substance of the medical writings collected in the great library of Alexandria), gynæcology, like other branches of science, made but little progress among the Greeks, for though they described a considerable number of the diseases to which the pelvic organs are liable, yet their descriptions are meagre, and in a high degree fanciful. Indeed, the very means that were taken to promote knowledge amongst them—the foundation of libraries and museums—seem to have frustrated the end in view. Whewell says, "The

library collected by the Attalic kings of Pergamus, and the Alexandrian museum founded and supported by the Ptolemies of Egypt, rather fostered the commentatorial spirit than promoted the increase of any real knowledge of nature." Under the Arabian ascendancy gynæcology fell into the hands of women, and during the whole of that period the science remained at a standstill. It should in justice, however, be said that general medicine, which was cultivated by male physicians, remained during the same period equally unprogressive.

Though the Arabians did little or nothing for the progress of medicine, yet they "discharged an important function in the history of human knowledge by preserving and transmitting to more enlightened times the intellectual treasures of antiquity."

After centuries of stagnation, a new life was given to medical science in the fifteenth century by the revival of the study of anatomy. Progress in the knowledge of the nature of the tissues of which the various organs are composed was, however, extremely slow; and even in the time of Harvey the structure of the uterus remained unknown. It is true that from early times the fibrous character and appearance of its walls had been recognised, but the nature of the fibres had not been discovered. Harvey made experiments upon dogs, and showed that the walls of the uterus contracted after the manner of those of the intestine; but Sartorini appears to have been the first to point out distinctly the muscular structure of the organ. This was done in the beginning of the eighteenth century. At that time the three layers of tissue forming the walls of the uterus were recognised much as they have been since—that is, an inner, a middle, and a peritoneal. The nature of the inner layer was first described by Dr. James Collins in his work on the "Anatomy of the Body of Man, Beast, Bird, &c.," published in 1685. "The inward substance of the uterus," he observes, "lodgeth between the coats, to which it firmly adhereth by the interposition of vessels, and is a composition of numerous small glands so finely united to each other by many thin membranes that they seem to constitute one entire substance, and, in truth, are several glands (of which everyone is encircled with a proper coat), and are so many systems of arteries, veins, nerves, lymphatic ducts, and excretorys. This substance is endued with a whitish colour and somewhat a spongy nature, much resembling the glandulous compage relating to other parts of the body." It was several years later that the nature of these glands was recognised by Dr. Jas. Keill (1698), who says, "Upon these membranes, especially towards the cavity of the womb, are several glands, which separate an humour to lubricate the cavity of the womb during pregnation."

Haller, however, had not been able to find this glandular lining, and was not disposed to admit its existence; and most anatomists of that period seem to have adopted his view. The progress of anatomical discovery continued to be extremely slow. This was, perhaps, due in part to the influence of the teaching of the ancients; for the fruit of discovery, and of a teaching different from that of Galen, was violent opposition and in some instances persecution. Yet this is hardly sufficient to account for the late period at which the mammalian ovary was discovered. It should be borne in mind that the ovary of birds had long been known, together with the formation and discharge of ova; and Fabricius of Aquapendente had published a work on the egg and the chick, "in which were given for the first time figures representing the development of the chick from its almost imperceptible beginning to the moment when it breaks its shell." In 1651 Harvey published his "Exercitationes de Generatione Animalium," in which is described the development, not only of the fowl, but also of the mammal; yet Harvey knew not of the ovum or ovary of mammalia. In this work he says: "In the deer, as well as in the sheep, goat, and other bisulcate animals generally, we find testicles; but these are little glands, which rather correspond in their proportions to the prostate or mesenteric glands, the use of which is to supply divarications to the veins and to store up a fluid for lubricating the parts, than for secreting semen and concocting it into fecundity and shedding it at the time of intercourse. I am myself especially moved to adopt this opinion, as well by numerous reasons which will be adduced elsewhere as by the fact that in the rutting season, when the testes of the buck and hart enlarge and are replete with semen, and the cornua of the uterus of the hind and doe are greatly changed, the female testes, as they are called, whether they be examined before or after intercourse, neither swell nor vary from their original conditions; they show no trace of the slightest use in the business of intercourse or in that of generation."

It is difficult to account for the fact that the periodical changes in the ovary had entirely escaped the observation of Harvey, and especially is this the case when we bear in mind that he had examined the bodies of a large number of animals, that he himself had described the ovary and ova of birds, reptiles, and fishes; that he taught that all animals were produced from eggs; that Vesalius and Fallopius had before his time observed vesicles in the ovary, and that some of Harvey's own contemporaries recognised the analogy between the ovarian follicles of mammalia and the follicles of the hen's ovary. It appears, however, that Harvey, in his researches into generation, was unable to free himself from the trammels of tradition, and that his observations were directed to the changes which occur in the uterus more especially than to those which take place in the ovary, as the following extracts show. Fabricius, in his work on the Development of the Chick, says: "The fœtus of animals is engendered in one case from an ovum, in another from the seminal fluid, in a third from putrefaction, whence some creatures are oviparous, others viviparous, and yet others born of putrefaction or by the spontaneous act of nature automatically." "Such a division," observes Harvey, "as this, however, does not satisfy me, inasmuch as all animals whatever in a certain sense spring from ova, and in another sense from seminal fluid, and they are entitled oviparous, viviparous, or vermiparous, rather in respect of their bringing forth than of their first formation." And again, "We, however, maintain (and we shall take care that it is so) that all animals whatsoever, even the viviparous, and man himself not excepted, are produced from ova; that the first conception from which the fœtus proceeds in all is an ovum of one description or another, as well as the seeds of plants of all kinds." In another place he describes the formation of the mammalian ovum from the juices of the uterus as follows: "The uterus first appears thick and fleshy; then its inner surface, the future residence, that is, of the ovum becomes softer, and resembles in smoothness and delicacy the ventricles of the brain. This I have already described in the deer and other cloven-footed tribes. But in the dog, cat, and other multiparous digitated animals the horns of the uterus, clearly corresponding to the round tubes of the woman (Fallopian tubes), the appendices of the intestine in birds, or the ureters in man, exhibit little protuberances at certain intervals, which swell up and become extremely soft. These, after intercourse, appear to open themselves (as I have observed in deer). From these the first fluid transudes into the uterus, and out of this the conception or ovum is formed."

It was under these circumstances, without the means of discovering, and, still worse, completely at a loss where to look for, the mammalian ovum that Harvey's keen intellect recognised in the fœtus and its membranes a true egg, and enabled him to enunciate the famous dictum, "Omnia animalia ab ovo."

I have said that Vesalius and Fallopius had observed vesicles in the ovary. Later Stenson and Van Horne described the vesicles, and regarded them as ova, and named the organs containing them ovaria for the first time. A contemporary of Van Horne and Stenson, however, gave the first full description of the ovarian vesicles, and they have since been called by his name, Regner de Graaf. His work was published in 1667, ten years after the death of Harvey. Having described the vesicles, he says, "Vesalius, Fallopius, Volcheren, Costa Laurentius, A'Castro, Riolan, Bartholin, Wharton, Dorn de Marchetti, and others, have described these vesicles under various names. Their united testimony would be too tedious to quote; nevertheless, we shall at present produce two of them, that the truth of what I say may be proved. Fallopius, in his anatomical observations, says: "I have, indeed, seen in them certain vessels as it were filled with water, or some aqueous humour, at some times yellowish, at others limpid." A'Castro, however, in chap. iv., book i., De Natura Mulierum, says: "The testes internally, besides vessels, contain sinuses filled with a thin aqueous humour, and like the serosity of thickened milk or

the white liquor of the egg. Others, again, call these vesicles hydatids. The celebrated Van Horne, however, in his Prodromes, prefers calling them ova, which term, since it greatly pleases us, we shall afterwards adopt, and we shall call these vesicles 'ova,' as Van Horne has done, by reason of the accurate resemblance they bear to the ova contained in the ovary of birds, for these, while they are still small, contain nothing but a thin liquor like albumen." Then he goes on to prove that all mammals have such ova, describing their difference in size in various animals; in hares and rabbits they are scarcely of the size of rape seed, in pigs and sheep the size of a pea, in the cow sometimes bigger than a cherry. Together with these he found smaller ova, which were barely visible. Stenson had also found these ova of various sizes in different animals.

Such was De Graaf's discovery. There were great and insuperable objections to its acceptance, and, yet, paradoxical as it may seem, the rejection of it retarded gynæcological discovery for a whole century. Some of the objections to it were natural and evident: e.g., the vesicles are too firmly attached to the ovarian tissue to separate from it without giving rise to serious lesions; the ovum is much too large to enter the tube of the oviduct; it is too soft to effect dilatation of a canal whose walls are so resisting as those of the Fallopian tube; the ova found in the tubes were smaller than those found in the ovary,—together with many others. The answers to these objections were, of necessity, quite unsatisfactory, and Haller advanced a theory which appears to have been generally received until the end of the last century. There was no doubt in their minds that the embryo was produced from an ovum, for the latter had been seen in the Fallopian tube; but the difficulty to solve was, how it got there. Haller's view met this difficulty. It was that the ovum was formed in the Fallopian tube from the fluid expelled from the Graafian vesicle. This may at first sight appear nearer the truth than the view of De Graaf, but on more careful consideration it can scarcely be so regarded. In any case, during the hundred years when it was accepted, no nearer approach was made to the discovery of the ovum; and when research was begun again, the first result was to confirm the view of De Graaf. William Cruikshank was a pupil of William Hunter. The latter rejected the ovular view of the follicle. Cruikshank was anxious to test its accuracy, and, with the approval of William Hunter, he made experiments on twenty-nine rabbits. His memoir was published in the Philosophical Transactions for 1797. He found in all twenty-eight ova in the Fallopian tubes of the twenty-nine rabbits experimented upon, with ruptured ovarian follicles in every instance in which ova were found. He concluded that his experiments confirmed the accuracy of De Graaf's theory. In 1825 Purkinje discovered in the ovarian egg of the fowl a vesicle which has since been called the Purkinjan or germinal vesicle. In 1827, Von Baer, while examining the Graafian follicle, saw within it a small movable body. This he called the ovulum, and regarded as the analogue of the germinal vesicle of the egg of the fowl. He knew not the magnitude of his discovery. Prevost and Dumas had observed the little body two years previously, but they did not pursue their investigations further, and it is to Von Baer the merit of its discovery is due. The ovulum was readily isolated and examined; but its real nature and full structure, though suspected by Purkinje, were not recognised until several years afterwards. In the year 1834 M. Coste discovered the germinal vesicle in the ovum of the rabbit, and Mr. Wharton Jones discovered the same body soon after in the human ovum. About the same time the germinal spot was found independently by Mr. Wharton Jones and Rudolph Wagner. The following is an account of Mr. Jones's discovery:—

"Although there is, at first sight, a considerable resemblance between the nucleus of the vesicle of De Graaf and the immature yelk of the egg of a bird, the author thinks, contrary to the opinion of Baer, that there is no real analogy between the two, because in the Graafian vesicle of mammalia there is no membrane surrounding its nucleus similar to the vitellary membrane of the ovum of birds, nor does this latter membrane appear first under a granular membrane. The vesicle of Purkinje consists of a delicate capsule containing a fluid, while in the minute ovum of mammalia there are found all the essential elements of the eggs of birds and other ovipara—namely, an external membrane analogous to the vitellary membrane, but performing a different function, a granular membrane containing a thin fluid corresponding to the immature yelk of a bird's egg; a vesicle in every respect analogous to the vesicle of Purkinje, while still lodged in the ovary. The author considers the granular membrane, proligerous disc, and granular fluid of the Graafian vesicle as parts which are superadded, and of which there is no trace in the ovary of the bird."[1]

"By this discovery the complete analogy between the mammiferous ovarian ovum and the ovarian ovum of the bird was established, and Baer's error regarding it dissipated. Though Purkinje had suspected the correct view of these structures, yet he and Valentin had in vain searched for a germinal vesicle; and it was only on renewing their investigations, after the announcement that such a vesicle had been discovered in the rabbit's ovum by M. Coste, that Wagner and others in Germany were successful in finding it. M. Coste therefore, as Bischoff observes, must, notwithstanding his very imperfect description and delineation of the germinal vesicle, be considered as its first discoverer. It is, nevertheless, continues Bischoff, certain that Mr. Wharton Jones made the discovery independently, and demonstrated the vesicle in a much more certain and definite manner, inasmuch as by opening the ovum he exhibited it in an isolated state."

The finding of the germinal vesicle and the germinal spot brought discovery in the structure of the ovum to a close, and rendered possible scientific embryology—a science which has since grown rapidly and shed its influence on almost every branch of medical study.

In the year 1821 was published a very remarkable work, entitled "Essays on the Female Economy," by Dr. John Power. The views of the physiology of the uterus and ovaries inculcated in this book gave a new direction to gynæcological investigation, and have formed the basis of almost all subsequent research into the physiology and pathology of these organs. In this work Dr. Power for the first time enunciated the law of spontaneous discharge of ova. "In every female," he says, "arrived at the peculiar age of puberty, and in whom the sexual organisation is perfect, the generative process proceeds, in a regular and uniform series of progressive actions, to produce an ovum containing whatever principle the female may contribute to the life and substance of the new creature, with nutritive matter to support its vitality and growth, until it is enabled to derive sustentation and growth from sources external to the ovum, and also to prepare it for its removal to and its establishment in its appointed nidus." And, again, "The production of the female part of the embryo and the preparation for its support and subsequent evolution, is entirely independent of all influence from the male. ..... At and subsequent to the time of puberty the enlarged ovaria are found to contain ova in different states of perfection, and in women who have never been impregnated, corpora lutea and cavities which have been supposed previously to have contained ova have been detected, whence it may be inferred that in them not only the formation but the extrusion of ova is accomplished without the influence of the male." The data upon which Dr Power based his views were in part analogy from what occurs in birds and others of the lower animals, and in part observations made on the human female. His actual observations appear, however, to have been scanty, but in the twenty years subsequent to the publication of his views, ample proof of their accuracy, as far as regards the spontaneous discharge of ova, was supplied by the labours of Girdwood, Negrier, Bischoff, Gendrin, Paterson, Raciluski, and others.

Power, moreover, besides enunciating the law I have named, adopted a view of the relation of the ovarian and uterine functions which was taught in his time. This was the dependence of the latter on the former. He says "that the actions of the uterus at the period of puberty are influenced by the state of the ovaria and consequent to them, is sanctioned by the highly respectable opinion of Dr. Cullen, who says, 'As a certain state of the ovaria in females prepares and predisposes them to the exercise of venery about the very period at which the menses appear, it is to be presumed that the state of the ovaria and that of the uterine vessels are in some measure connected together, and as generally symptoms of a change in the

[1] Proceedings of the Royal Society, 1835.

former appear before those in the latter, it may be inferred that the state of the ovaria has a great share in exciting the actions of the uterine vessels.'"

More definite ideas were subsequently entertained with reference to this relation, for it was maintained that menstruation was dependent upon the growth and rupture of a Graafian follicle, or the discharge of an ovum, and that an ovum was discharged with every catamenial flow. This, the ovular view of menstruation, met with some opposition, and notably from Dr. Ritchie, of Glasgow, but it was almost universally accepted until the last few years. The evidence for this view of menstruation, though plausible, was never, it appears to me, convincing. From the first exceptions to the law were observed and recorded, even by its strenuous supporters, but they were explained away. Now, however, the number of such exceptional instances recorded is such that the theory can no longer be maintained. Otherwise was it with the ovarian theory of menstruation—that is, that the actions of the uterus were dependent upon the ovaries. It was supported by much stronger evidence; indeed, it appeared at the time, and long after, to be demonstrated. There was, almost without exception, a change of some kind in the ovaries at the time of menstruation. When the ovaries had been removed in youth, menstruation never appeared. This, together with the celebrated case of Mr. Pott—the only one of the kind recorded then—in which both ovaries were removed from a woman who had menstruated regularly, but who never menstruated afterwards, amounted apparently to a demonstration. The last few years have supplied new and unexpected evidence on this point. Ovariotomy has become now an operation of not infrequent performance; and a number of cases in which both ovaries were removed have been placed on record by Spencer Wells, Atlee, Peaslee, Storer, and others. In some of these cases the functions of the uterus were entirely suspended, in others they were performed occasionally afterwards, while in a third class these functions appear to have returned regularly for years after the operation. These facts render it necessary to re-examine the evidence on which the dependence of the uterine on ovarian actions is maintained.

The changes in the mucous membrane of the uterus were first noticed during gestation by Fabricius, who called the decidua the placental membrane. This membrane was, however, first accurately described by William Hunter, in so far as regards its naked-eye character, in his plates of the gravid uterus, published in 1774, and subsequently in his volume on the gravid uterus published after his death. He describes it as "the outer membrane of the secundines, yet it may be said to be the internal membrane of the uterus"; it is the inside of the womb; it forms the uterine part of the placenta. Six years after the publication of William Hunter's plates of the gravid uterus, his brother, John Hunter, described the decidua as an exudation of plastic lymph on the inner surface of the uterus. He says: "At the time, or very probably before, the female seed enters the uterus, coagulable lymph from the blood of the mother is thrown out everywhere on its inner surface, either from the stimulus of impregnation taking place in the ovarium, or in consequence of the seed being expelled from it. When the seed has entered the uterus it attaches itself to that lymph, by which it becomes covered and immediately surrounded. This coagulable lymph forms a soft pulpy membrane, the decidua, which is, I believe, peculiar to the human species and to monkeys, having never found it in any other animal.....The whole of this coagulable lymph continues to be a living part for the time; the vessels of the uterus ramify upon it." The errors of great men are often received with as much readiness and confidence as their truest and greatest discoveries, and this episode in the history of the brothers Hunter is an instance of this, and of the time and labour necessary to refute error when supported by great authority; for the views of William Hunter were completely ignored, and the erroneous views of John Hunter were accepted and taught in the schools for half a century, until in the year 1842, Dr. Sharpey and Professor Weber described the true structure of the decidua, and showed by histological evidence that it consisted of the greatly developed mucous membrane of the uterus.

It was natural that the changes in the decidua should have been first observed during gestation, for at that time they are more marked, and have hitherto proved more accessible to observation. The elucidation of the history of the changes which occur in the inner surface of the uterus was retarded by the views held with regard to the uterine functions. At the time that the discoveries which established the law of spontaneous discharge of ova were made the changes in the uterus attracted but little attention. That changes took place in it periodically had been observed, but it was believed that they amounted only to swelling and congestion of the mucous surface, which was thought to be due to ovarian stimulation. In 1858, however, Dr. Tyler Smith examined the uteri of two women who had died during menstruation, and found that the mucosa was entirely removed. Other investigators had observed it in a state of dissolution, but our knowledge of the process continued vague and uncertain. During the last few years the process has been more fully studied, and the opinion that the uterus is active only at the monthly epochs is not borne out; on the contrary, it has been found that a series of progressive actions take place in it periodically, and that a decidual lining is developed in the body of it, beginning at the close of a monthly epoch, perfected during the interval, and removed during the bleeding period.

These two subjects—the changes which take place in the ovaries and in the uterus, and their relation to one another—are of first importance in gynæcology, for it is upon an accurate knowledge of them alone that we can attain to a true pathology of the pelvic organs.

With regard to the latter subject there is at the present time great divergence of opinion. There are at least four chief views, besides minor modifications of the same. The view entertained by the early English gynæcologists, and which is still adopted by many English physicians, is that uterine disorder is the result of a concomitant constitutional derangement. The view adopted by the French school, led by Recamier and Lisfranc, is the opposite, that the primary mischief is local, and is followed by constitutional troubles, the local mischief being inflammation. It was not unnatural that a school at the head of which was the rediscoverer of the speculum should hold this view.

A third view is based upon the physiological doctrine of the dependence of the uterine on the ovarian functions. It is that uterine disorder is secondary to, and dependent upon, ovarian disease. It by no means follows that a diseased ovary excites disease in the uterus because in health the functions of the uterus are dependent upon the performance of those of the ovary; but the doctrine itself upon which this view is based has not only been called in question, but very strong evidence has been brought forward to show its fallacious character, and that, whatever the relation between the ovarian and uterine actions, it is not a dependence of one upon the other.

The last view is that called mechanical pathology. Sir James Simpson, in this country, brought displacements prominently forward as a factor in uterine disease, and laboured much in devising mechanical means for their relief or cure. His followers have trodden in his footsteps, and this question is one that has disturbed not a little the gynæcological world. Of the importance of displacements and the necessity of their cure in many instances there can be no question. Indeed, this is admitted on all hands, while opinions vary much with reference to the mechanical view of uterine pathology.

It seems to me that the several views I have named contain a certain amount of truth. Indeed, it would be impossible for experienced, learned, and scientific men to hold them were they absolutely without foundation; yet I venture to think they are far from representing the whole, and that in the formation of these views the physiology of the organs concerned has been kept too much in the background. I will point out a remarkable instance of this. It is the fact that the character of the uterus as a hollow muscular organ, and that as such it is subject to certain well-established pathological laws, has been all but universally ignored in the study of the enlargements of this organ. Had this character of it been borne in mind, and its importance duly appreciated, recourse would have been had far less often to causeless congestion and inflammation to explain certain morbid conditions met with in it.

Further researches in the physiology of the organs, the effect of the perfect and imperfect performance of their functions upon the general health, and the influence of derangement of the general health in inducing disease in

them, are necessary before we can take a broad view of their pathology, and a due consideration must be given to all the data thus obtained before treatment can become generally successful. The progress which has been made in diagnosis, the use of instruments, the speculum, the sound, the bimanual touch, and rectal exploration I have no time to point out; nor indeed can I sketch to you the advance made in the treatment of diseases of the pelvic organs. I must, however, state that the greatest strides in this respect have been made in surgical treatment, and these are amongst the grandest achievements of modern surgery. The labours of Thomas Keith and Spencer Wells have rendered ovariotomy one of the most successful of capital operations; of Baker Brown and Marion Sims the cure of vesico-vaginal fistula comparatively easy; and the work of Pean and of Wells points out the possibility of the knife accomplishing in fibroid tumours of the uterus what medicine must confess itself to have failed in. Here opens up a future for uterine surgery where workers and some of you may cut new ground, and reap an ample harvest. But a much wider field than the mechanical removal of few or many morbid growths is open to the student of gynæcology, and to this I trust some of you will in due time turn your attention: it is the study of the pathology of these organs, the tracing back the course of disease to its source, the discovery of its cause. When this has been accomplished, gynæcology will assume a preventive character. Such inquiries, moreover, have a most important bearing upon a social question which has been lately much discussed—I mean the employment of women. Persistent and strenuous efforts are being made to admit women to professions which demand from their members strength, energy, and a power of continuous and severe effort and application. I cannot over-estimate the importance of this subject; not to the few women for whose sake such clamour is made, but to society and to the race. It cannot be decided by prejudice, if prejudice it be, which has existed for ages, nor yet by the intellectual caprice of a few experimenters in moral and social science; it is a physiological and pathological problem which must be solved on physiological and pathological grounds.

Uterine disease is in great part the penalty of a high civilisation. When and how it acts it is our duty to discover. To counteract the evil influence and ward off the disease is the highest aim of our calling. To this we should direct our work. Progress may prove slow, but we shall attain the desired end. Without it we shall not be satisfied. Work will accomplish the task. It is to work I invite you to University College. If you are not prepared for this, you are not welcome here. If you work, you will find the study of boundless interest and of vast extent.

There are some of you who have already begun your studies here. I greet you warmly on your return, refreshed and reinvigorated, I trust, for their further pursuit. There are others of you who are about to leave us—who have successfully passed your examinations and reached the desired goal, and some of you who have distinguished yourselves amongst your fellows in the classes of this College and in the examinations of the various licensing bodies. I most heartily congratulate you. Remember that "things won are done." You have but prepared yourselves for the active duties of life. To ensure success you must apply yourselves continuously and steadily in the future as in the past; for

> "Time hath a wallet at his back,
> Wherein he puts alms for oblivion—
> A great-sized monster of ingratitudes.
> Those scraps are good deeds past, which are devour'd
> As fast as they are made—forgot as soon
> As done. Perseverance
> Keeps honour bright; to have done is to hang
> Quite out of fashion, like a rusty mail
> In monumental mockery. Take the instant way;
> For honour travels in a strait so narrow—
> Where one but goes abreast; keep then the path;
> For emulation hath a thousand sons
> That one by one pursue. If you give way,
> Or hedge aside from the direct, forthright,
> Like to an entered tide, they all rush by,
> And leave you hindmost;
> Or like a gallant horse fallen in first rank,
> Lie there for pavement to the abject rear,
> O'er-run and trampled on; then what they do in present,
> Though less than yours in past, must o'ertop yours:
> For time is like a fashionable host
> That slightly shakes his parting guest by th' hand,
> And with his arms outstretched, as he would fly,
> Grasps in the comer. Welcome ever smiles,
> And farewell goes out sighing. O let not virtue seek
> Remuneration for the thing it was;
> For beauty, wit,
> High birth, vigour of bone, desert in service,
> Love, friendship, charity, are subject all
> To envious and calumniating time.
> One touch of nature makes the whole world kin,
> That all with one consent praise newborn gawds,
> Though they are made and moulded of things past,
> And give to dust that is a little gilt
> More laud than gilt o'erdusted."

Abstracts
OF
INTRODUCTORY LECTURES
DELIVERED AT THE
MEDICAL SCHOOLS OF LONDON
AT THE
Opening of the Session 1877-78.

CHARING-CROSS HOSPITAL.

INTRODUCTORY LECTURE BY MR. ASTLEY BLOXAM.

THE lecturer began by offering, on behalf of the governors of the hospital and of his colleagues, a warm and hearty welcome to all present. He then proceeded to exhort all who had come for the first time among them, and who were standing as it were on the threshold of the temple of medicine, to constant and devoted work. Their profession, he said, promised neither wealth nor patronage, but demanded, on the contrary, the sacrifice of time, comfort, perhaps health. Above all things they would be called upon to practise regard for the feelings of others—manliness, gentleness, and thoughtfulness towards those who would seek their aid. He called to their minds the name of a student of that hospital—that of Llewellyn, inscribed on a tablet on the wall before him. This ornament of the medical profession had died in harness, faithful to the end. He was surgeon to the ship *Alabama*, on the Confederate side in the American war, and when his ship was sinking, and he was asked to save himself, he refused to leave the wounded, and nobly perished at his work. The importance of mental cultivation was urged by Mr. Bloxam on his hearers. A man in practice, with the immeasurable responsibility of a life hanging on him, who should yet be ignorant of what he ought to know, would be in a position, of all positions, the most terrible. The danger could only be avoided by work, intense, incessant, and prolonged, in spirit devoted and earnest. In the first two years of their curriculum the subjects to engage their chief attention would be anatomy, chemistry, and physiology. To this major part of their scientific training he advised them to add, as far as possible, the allied sciences, botany, zoology, geology, and mineralogy. Without such knowledge they could scarcely hope to lay with safety a foundation of medical skill. If they wished to be scientific practitioners, it would not suffice for them to scrape through their examinations. All the greatest men, especially in their profession, had been not only great thinkers but great workers. He called on them to work for themselves, for their friends, and for their hospital, to raise it to higher fame in days to come. He referred by name to the eminent men who had helped so to distinguish this institution. He reviewed its history during the past twelve months, and especially referred to the opening of new wards by the Prince and Princess of Wales, and he expressed a desire to see the new buildings of the hospital supplemented by one suitable for the school. He then passed to the subject of important progress recently made in the profession, especially on its surgical side. He paid high tributes of admiration to Professor Lister and Sir James Paget, stating incidentally that when he (Mr. Bloxam) was house-surgeon to the latter, at St. Bartholomew's Hospital, the treatment of wounds with carbolic acid, since brought to a system by Professor Lister, was first tried. Quoting the words of Bacon, he said: "I hold every man a debtor to his profession, from the which, as men do receive countenance and profit, so ought they of duty to render themselves, by way of amends, to be a help and ornament thereunto."

ST. GEORGE'S HOSPITAL.

INTRODUCTORY ADDRESS BY MR. PICK.

Mr. PICK commenced his address by giving a brief sketch of the boyhood and early career of Hunter, Astley Cooper, and Brodie, three of the great masters of our art of the past, two of whom had graced the walls of the hospital in which those of his hearers to whom his words were more especially to be addressed had that day enrolled themselves. He pointed out the great disadvantages they had suffered from, and the entire absence of systematic teaching which existed in their day, and in spite of this he showed the distinctions they had won, and the amount of knowledge they had obtained and transmitted to their successors. He besought his hearers, with their immeasurably greater advantages, to endeavour to follow in the footsteps of these men, and, like them, do some good in the world, so that their names should be revered and honoured when their place should know them no more; and, like those distant heavenly bodies, whose light continues to reach us for years after they have become extinct, their light would continue to burn brightly, like that of Hunter, Astley Cooper, and Brodie, after their earthly toil was over, and their names be remembered as having done something to advance the noble profession on which they had that day embarked. He then proceeded to compare the course of instruction in Hunter's and Astley Cooper's time with that which was pursued in the present day. Showing how little was done in the former case, and how no effort was made to teach the younger portion of the profession, so that the student had to rely on his own unaided efforts, and contrasting it with the carefully arranged curriculum of study of the present day. Briefly explaining what the general plan of study was, and how every effort would be made on the part of their teachers to assist them in their studies, he assured his hearers that if they did not obtain a sound knowledge of their profession, the fault would lie with themselves, and they could shift the responsibility on to no other shoulders than their own.

The lecturer then proceeded to consider the points in the character of the men whose early life he had sketched, which led to their success, and besought his hearers to endeavour to imitate them in these things.

First of all, as the mainspring of their success, he placed industry and perseverance. No one, he said, could look back on the life of John Hunter, and remember what he achieved, without being struck with amazement at the amount of work accomplished in the short space of thirty-five years. No one could fail to see, on tracing back the life of Astley Cooper or Brodie, that the cause of their success was their industry and devoted zeal to their work. And as it was in their day so it would be now—the working man would be the successful and the far happier man. And if they desired to emulate these men, it must be by steady, earnest, thoughtful work, and by a just appreciation of the value of time. "Your time here," he said, "is short. Whatever zeal you may use, you cannot learn in three or four years all the knowledge which is to serve you for life in practice. All the more reason, therefore, that you should be ever on your guard, ever covetous of the moments which glide so rapidly and imperceptibly by. Your little hoard of time you must guard as jealously as the miser does his gold, and be constantly on the alert lest thieves should strive to rob you of it." Such things as over-indulgence in sleep, doing things superficially and in a hurry, and the solicitations of friends, were thieves which would rob them of much of their time if they were not on their guard against them. The lecturer especially warned them against doing their work carelessly and superficially, as being surely wasting time. The secrets of nature were not to be revealed to the superficial worker who, like the butterfly, is ever flitting from flower to flower, but without staying long enough to extract the honey. In order to find the gold they must dig deeply. It was only waste of time to wander from spot to spot and turn up a few spadesful of earth, and because they did not find the coveted gold, to try elsewhere. Their course must be different; they must fix on their spot, not without care and forethought, and then dig deeply through the gravel and shingle until they reached the clay, the real bed of the river, where the gold was. So it was with their studies; if they were always in a hurry, seizing a fact here and another there, but not staying to bind them together, they would find that their knowledge was like a vase of cut flowers, beautiful to look at, but speedily fading away, instead of, like the ivy, which clings to the oak and endures notwithstanding the heat of summer and the cold blast of winter. Knowledge superficially gained was time wasted, and though it might enable them to pass their examinations, it would not stand them in stead in after-life.

Another trait in the character and life of those great men whose early days they had been reviewing, which led to their success, was veracity and fidelity to their work. He had shown them how Shakspeare had said they must be "true to themselves." They must be more than this; they must be true to their work; they must be accurate in all they undertook; they must never *think*—they must be *sure*. When they came to clinical work in the wards of the hospital and proceeded to diagnose cases, they would find that ours was often an hypothetical science; that is to say, given a case in which they desired to diagnose the disease, after a few preliminary questions they would generally find that unconsciously in their own minds they had settled upon some disease or diseases which it might be, and their subsequent investigations would be conducted with the object of making out whether this hypothesis was correct or not. How futile would be all their endeavours, and how erroneous their conclusions, unless they were strictly accurate in all their observations.

Another point in the lives of Hunter, Cooper, and Brodie worthy of remark was their devotion to their work. No one, for instance, could fail to notice with admiration, on reading the life of Hunter, and especially his letters, how thoroughly his whole being, his mind and thought, were centred in his work, and how it was the one aim and object of his existence. And this same devotion we should do well to copy. As had been said at the beginning of the address, they were now entering on the real business of their life—the business by which they would have to live,—and more than this, a business which involved the lives and well-being of their fellow-creatures, and it depended upon themselves and their devotion to their work whether they would rightly use or abuse the opportunities which were afforded them. If they made their work the great aim of their existence they would never lose a chance of learning something. As Collingwood never saw a vacant place in his estate but he took an acorn out of his pocket and popped it in, so let them deal with their opportunities through life. An acorn was but a little thing and cost nothing, but it might spread into a prodigious bit of timber. Let all their knowledge tend in the direction of that which was acquired by the great philosopher Newton, who, though he had a complete and comprehensive knowledge of science, likened himself to a little child gathering pebbles on the shore, while the great ocean of truth lay undiscovered before him.

KING'S COLLEGE.

INAUGURAL ADDRESS BY PROFESSOR LISTER.

PROFESSOR LISTER said he would endeavour to lay before his audience the result of a short inquiry he had made at Edinburgh into the nature of that class of phenomena known as fermentation. It was generally admitted in obstetrics that puerperal fever was due to fermentation; it was known that putrefaction was also fermentation, and if that was so the nature of fermentation was of the highest importance. The question was, were all true fermentations caused by the development of organisms, as was the case in the fermentation of the juice of the grape? Take the case of putrefaction, was that fermentation of the blood? They all knew that blood putrefied, and became foul and poisonous. But blood had no inherent tendency to putrefaction, and there was nothing in the air to produce it. But if a morsel of putrefying blood—as much as would rest on the point of a needle only—was put into a quantity of blood that had been heated to 300° Fahr., and had remained for weeks without putrefying, putrefaction would take place and spread rapidly. That showed that putrefaction was a fermentation. Then, if examined microscopically, the blood would be found to contain microscopic organisms called bacteria, of different sizes, having the remarkable power of locomotion, and de-

veloping *pari passu* with the fermentation. Were these the cause of the putrefaction, or were they only accidental concomitants? It had been with the object of finding out if possible the true answers to these questions that he had made investigations lasting over two months. In order to arrive at some conclusion he determined to try experiments with milk, and to watch lactic fermentation. If they looked at souring milk with a microscope they would find organisms which were obviously of the character of bacteria, but they were motionless, and rather peculiar in form. Trying boiled milk he found that after some time there was no souring and no putrefaction, proving that the oxygen of the air and the casein in the milk itself had not produced lactic fermentation. In boiled milk, therefore, they had evidence that fermentation was not spontaneous. If a drop of water was added to the milk they then had bacteria of another sort and fermentation of another kind. Milk taken from a dairy would sour, but milk taken direct from the cow would probably never sour. By means of a number of experiments he had discovered that if bacteria lactis were not present in the milk other fungi were developed. The next thing to consider was whether or not the bacteria lactis were the cause of fermentation. The conclusion he had come to was that the bacteria lactis were the cause of lactic acid fermentation. He urged the students seriously to ponder this subject and the facts he had laid before them, and he was sure they would agree with him that there was evidence that bacteria were the cause of fermentation. They then would have taken one sure step in the way of removing this very important question into the domain of distinct and definite knowledge.

ST. MARY'S HOSPITAL.

INTRODUCTORY ADDRESS BY MR. HERBERT PAGE.

AFTER some remarks to the students, impressing upon them the necessity of self-reliance in their work, and on the superior knowledge to be gained in the hospital wards and the dead-house, rather than from books, which can never supply the place of actual experience, the lecturer proceeded:—"My second duty is to ask your attention for a short time to some of those questions which concern us as members of the medical profession, to something perhaps of moment in the course and conduct of our lives. The labour of others who have preceded me here and elsewhere as readers of introductory addresses renders this duty somewhat of a task; and I would it had been given to some one of riper judgment and years.

"You have done your best, then, to gain a well-grounded knowledge of your profession and its aims, and are fitted to become the healers of your fellow-men. I hold you should be something more—you must be the teachers also. But he who would succeed in this must be not only a good doctor, but also an educated man. Most of you come here fresh from school life. Has the work done there been such as will be of use to you in the profession you have chosen? ..... I cannot help thinking there are many who in after-life must regret the wasted opportunities of self-improvement which surround them here. Social and intellectual good may be derived from early years at our universities; but our advantages, while we have them, are in many respects greater. It should be counted a high privilege that you pass four years of your life in London; and there is no reason on earth why the most diligent work at your own special hospital studies should be hampered by an intelligent endeavour to know and profit by the treasures which this great Babylon contains. In that inimitable piece of portraiture which brings one of the most striking figures of the last century in very life before us in this, we read that his biographer, having suggested a doubt that if he were to reside in London the exquisite zest with which he relished it in occasional visits might go off, and he might grow tired of it, drew from Johnson the characteristic reply—'Why, sir, you find no man at all intellectual who is willing to leave London. No, sir, when a man is tired of London he is tired of life; for there is in London all that life can afford.' You may urge that there is no time for such things. I do not believe it. The man who is always talking about want of time generally wastes the time which he has got. 'Men waste half their lives from want of method,' said Sir Charles Bell, one of the greatest lights and most accomplished men in our profession. True, the advantages of life in London cannot be enjoyed by the students of every school; but the fountains of literature and the researches of science are open for all. If real culture be helped by a *knowing of the best that has been thought and said in the world*—and this definition we may accept as not very far from right—such culture is not withheld from any man. 'A cultivated mind,' wrote one of the leaders of thought in his day, 'I do not mean that of a philosopher, but any mind to which the fountains of knowledge have been opened, and which has been taught in any tolerable degree to exercise its faculties, finds sources of inexhaustible interest in all that surrounds it—in the objects of nature, the achievements of art, the imaginations of poetry, the incidents of history, the ways of mankind past and present, and their prospects in the future.' There is no profession in which a good training of the mind is so likely to be of service as in our own. Brought into contact as we are with all classes and sorts of men, who perhaps have but little sympathy with our calling and our work, how essential it is that our thoughts and feelings should not run always in the one groove of our own pursuits! A cultivated mind will do something more for us even in our special walk in life. It will make us better reasoners on the facts which daily crowd upon us in the investigation of disease; it will make us less selfish, more tolerant and charitable to the opinions of others; there will be less of professional rivalries and jealousy, and less thought of what we do ourselves, only so much as it is in the cause of humanity and truth. Thus endowed, a man may turn from the weariness of life, which must inevitably be his lot, to a sure source of refreshment and purest rest, whether he be toiling amid the busy and sunless gloom of a populous town, or in some remote village where he feels himself friendless and almost banished from the world.

"There is, moreover, no isolation in our work. How much of deepest concern to ourselves is of interest to the educated men of every class. The greatest minds of all countries and ages have speculated on the foundations of thought and reason, and on the action of the human brain. Elaborate treatises in many tongues tell of the profound interest which this, the greatest mystery of our being, has always excited in the breast of man. For this age, and for our profession, it seems to have been left to throw some ray of light on this which is most dark and obscure. Careful observation of the results wrought by disease on the human brain, and the marvellous facts revealed by experiments on the brains of animals, are doing something to unravel the problems of thought, and to make clear the functions of the organ of mind. We stand only on the threshold of the inquiry, which none but those of high mental cultivation are fitted to comprehend or carry on. The keenest powers of reasoning are needed to keep us from falling into error, and grasping at the shadow when the substance is yet far off.

"I have said we must be teachers as well as healers. When, amid the vast changes and revolutions taking place around us, peril has seemed to beset the establishment of the English Church, we have been told of the wondrous influence for good which lies in the presence of an educated gentleman in every parish. No man can be insensible to the zeal of the clergy in their exalted work, but while there are hundreds of homes and families in which they are never seen, there are very few, while misery and disease have mastery, from which the doctor can long be absent. How immeasurably great might be the influence of so widespread a body as our own, if to the full, and in something more than in name, we were worthy to be called an educated profession! The primary truths and laws of physiology which govern health, and the infringement of which brings on disease; an attention to simple sanitary rules, the neglect of which may be dangerous not only to individual households, but also to whole communities; a proper training of the young, a breaking down of the ignorant prejudices which have long combined to make men regard mental disorder as a disgrace to be concealed, rather than as a serious and lamentable disease calling for treatment in its earliest stages,—these are but a few of the matters concerning which the doctor ought, in the routine of his daily work, to make a deep impress on the people at large....."

After speaking of the changes being made in our hospitals and schools, and of the misfortune that the great corporate

bodies of the profession did so little more than perfect the machinery of examinations for those who come to them for a diploma, Mr. Page continued:—

"In the advancement of knowledge there is not one of us who may not play his part. The intricate questions which involve the evolution of disease, and the hereditary influences ever tending to modify it and call it into existence, can only be solved by those who have the opportunity of observing the life-history of whole families. It is not to those only whom custom attaches as surgeons or physicians to a hospital, but to the great body of practitioners throughout the country we must look for light on these subjects. The general practitioner who will exercise a well-trained mind by the careful record of observations in his daily work will find a vast scope for study and reflection, and will confer a great boon upon mankind. You say, I offer you only vague generalities, instead of some striking example of what I mean. Who then, sufficiently burthened, it might seem, with a large general practice, has made a more distinguished name in the ranks of science than the Hunterian Professor of the Royal College of Surgeons, Mr. W. K. Parker?—a man whom all must honour and regard, not less for his brilliant work, than for the noble spirit of humility in which it has been achieved.

"Let no man despair because he has not the gift of great talents or abilities, or be cast down that his own light appears dim beside the genius of great men. It is not given to every man to be a Hunter, Brodie, Astley Cooper, or Charles Bell; but it is some consolation to know that no great genius has ever yet been born whose name and fame have not been builded to a large extent on the work of lesser men who have gone before them. 'Society has its great men and its little men, as the earth has its mountains and its valleys. ..... The sun illuminates the hills while it is still below the horizon; and truth is discovered by the highest minds a little before it becomes manifest to the multitude. This is the extent of their superiority. They are the first to catch and reflect a light which, without their assistance, must in a short time be visible to those who lie far beneath them.'

"Let each man do his duty, fearlessly, honestly, and with singleness of purpose. He shall not work in vain. It is an ennobling thought, the solace of some of the wisest and best amongst us, that what we so do here may be consummated and made perfect in the life which hath immortality."

MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS BY MR. HENSMAN.

THE lecturer commenced with a short review of the early history of the hospital and its medical school, mentioning the names of Handel, the famous composer, and David Garrick, the actor, both of whom were closely identified with the hospital as its benefactors. Alluding to the address which the medical officers, in 1835, presented to the governors, urging the formation of a medical school, to which, with others, the names of Charles Bell and Thomas Watson were attached, he said: "But these names must suggest, to many, memories of the past, and to those of us who are youngest become

> 'A link among the days to knit
> The generations each with each.'

The comparatively recent death of the aged widow of Sir Charles Bell (so gifted that it mattered not to him whether he handled the scalpel, the pencil, or the pen) has severed nearly the last link that bound him to us except in memory. But it seems almost a privilege as well as a pleasure to be able to speak of Sir Thomas Watson, old in years, yet young and vigorous in mind, still able and still willing to attract us by the charm of his writing and the weight of his long experience. I need trace no further this meagre outline, but I would remind you that until a comparatively recent date science was no where systematically taught, if we except the medical schools. The older universities, unable to embrace these new wants—the birth of a new era,—clung to the old traditional method of teaching, and only now are beginning heartily to recognise the real value of natural science as a branch of general education and culture. We should all remember that it is to the laborious and long-continued efforts of men of science, imbued with the pure spirit of research, that we owe in large measure our advance in civilisation, and our greatness as a nation. Whilst the medical schools have grown up as necessary offshoots of those charitable institutions which everywhere mark the progress of a civilised people, having been created for the education of a special class of men, we must not forget that they have had a still wider influence and use. For have they not found fitting employment for the energies of many who, in their own departments, stand in the foremost rank of scientific investigators. The scientific discoverer must lead the way. Applied science, coming after, takes up the thread of discovery, and once guided into a useful channel, industries are created and commerce spreads." Illustrations of this order of evolution were afforded by the discoveries on the properties of steam and its application as a motive power; and chemistry was alluded to in this connexion "as a *science*, exercising a kind of creative power over the elements, setting them free, or cementing them into new relations; and, as an *art*, so vital to the right progress and development of manufacturing industry." After citing several examples in illustration, he concluded this portion of his subject as follows: "But I might weary you with illustrations, all tending to show how the purely scientific worker often supplies the material which later on others have utilised. Great discoveries are not made at a leap; they follow slowly after years of patient labour."

In speaking of anatomy the lecturer said: "But anatomy must ever remain one of the great central subjects of your medical studies; like the keystone of the arch, touching both halves of your work—medicine on the one hand, surgery on the other,—and fitly crowning the span of your knowledge; for without it neither side could stand secure. The practice of sketching in outline will assist you much in your work. You should, if possible, sketch all you see under the microscope and make outline drawings of your dissections. This art of drawing I believe may be of great aid to a medical man throughout his whole professional career. It would take up too much of your time to cite instances in proof of this, and happily these are too evident to escape those who consider the subject; but I may remark that a careful drawing of a well-prepared dissection or a microscopical preparation may save hours of book drudgery, and must lead to clear and accurate ideas. To the busy practitioner the rapid sketch of a morbid growth, or the mere outline of a diseased limb, may convey to the mind more than pages of careful notes. To those who teach, good diagrams are absolutely essential, and none are so good as those fresh from the hand of the teacher himself. Drawing may be said pre-eminently to cultivate the eye, as to form, size, and relation, and it certainly educates the touch in a manner scarcely second to the use of the scalpel in the dissecting-room. When it is remembered that in many surgical operations the knife is carried in curves or in straight lines, surely it must be some satisfaction to the surgeon to feel that his eye has been previously educated in these things, and will safely guide his hand. I make bold to hope that the art of sketching and painting, which nowadays forms a part of the education of most of the better classes, will become almost a necessity in our curriculum. One has only to glance at the beautifully executed drawings of Sir Charles Bell or Sir Robert Carswell, to feel that such men have set us an example which all must admire, and more of us might follow with advantage."

In conclusion the lecturer said: "Contrasting our own profession with the other so-called learned professions, it must be obvious, I think, to all of you, that whilst the faculties and powers of the mind are exercised alike in all, the special cultivation of the senses is necessary in ours alone. Those senses, which are the avenues through which alone a knowledge of the outer world flows into and becomes a part of our higher being, must be taught to do their work as highly trained and willing assistants. How essential it is for the eye to be taught to recognise instantly a change of form or of colour. It is by comparing an injured limb with the sound one that the surgeon often learns by a look the nature of the injury or knows by their tint the most appropriate management of the contents of a hernial sac. The ear, too, must be educated, for on a right appreciation of their sounds the physician learns the state of the great organs within the chest. By the sense of touch, moreover, the practitioner is enabled to detect the presence of a deep-seated abscess or the temperature of a

joint; and although I must grant you the delicate filaments of the special nerve of smell are often offended in our daily work, yet I venture to assert that not one of you would wish to dispense with this useful faculty, even for an hour, for it often assists us in our investigations and should be ever on the alert to warn us of noxious influences which might be hurtful to our patients. We should endeavour, then, to educate our senses, for their capabilities are great. As the blind man acquires a touch surpassing our experience, so should we try to develop these half-expanded powers. I have often thought that John Hunter owed much of his great fame to the manual skill he gained as a cabinet-maker in early life. We should bear in mind that although the skill of the optician gained for us a new realm outside the range of unaided vision when he constructed the microscope, yet to see aright the eye must have a special training. The murmurs of respiration, or the rush and reflux of the blood as it flows through the great centre of the circulation, are heard to no better purpose by the aid of the stethoscope if the ear be untutored. Whilst we extend the sweep of our knowledge by means of the microscope, the ophthalmoscope, and the thermometer, let us watch lest our own organs of perception, best instruments of all, created by an Eternal Will, and step by step evolved through lower forms to near perfection, be unequal to the requirements of these higher duties. Every side of the intellect must be trained, every right capacity of the body must be developed, if we would work to good purpose. Those higher faculties and nobler aspirations which express the moral side of our nature can never flag if the object and the end be so good. Remembering the history of the past, it requires, I think, no prophet to predict in what direction we may hopefully look for advance in the future. We should ever remind ourselves that cause and effect work out their end with untiring round for good as well as for evil, and a wiser generation more in harmony, because more fully understanding the laws which govern men and the world on which they exist, will better escape those ills which surround us to-day."

ST. THOMAS'S HOSPITAL.

INTRODUCTORY LECTURE BY MR. WAGSTAFFE.

AFTER a graceful allusion to the loss the institution had sustained in the death of Sir Francis Hicks, the late treasurer, and of Mr. R. G. Whitfield, the late medical secretary, Mr. Wagstaffe proceeded to refer to the subject of medical education. One of the most important elements of a student's life was health, and that was so materially influenced by the character of the rooms he lived in and the air he breathed that he could not refrain from hoping a serious effort would be made to erect appropriate buildings for their accommodation, in the form of suitable dwelling-houses, upon some such plan as that adopted at the colleges in Oxford and Cambridge. The first condition of success was to understand clearly the result they desired to produce. To many as students, having the incubus of examinations hanging heavily upon them, the accumulation of knowledge for the purpose of satisfying examiners was, perhaps, the first object which urged them; but such an object fell far short of the truth. Knowledge, not wisdom, would then be their goal. It was the oversight of the difference between knowledge and wisdom which led to cramming. They did not want to become men of much learning only, mere walking dictionaries of medical science. What was the highest aim they could have in the study of their profession, whether as students or in its practical work? One thing that would make them honest in their work—careful, persevering, and courageous observers; that would make them do their duty to their profession, their fellow-creatures, and themselves, was to take as their aim in all their work simply—truth. That would necessitate the proof of a statement, if it were provable, before it was accepted—the use to the uttermost of the senses they possessed. It meant that their lives, as well as their aspirations, should be a truth; that they should hate a sham and scorn the littleness which strove to hide ignorance under a cloak of big-sounding but meaningless verbiage—littleness which was self-sufficiency and the fear of the opinion of others. Next he would place honesty in their work. When a man accepted a statement without inquiry he was to be congratulated upon his powers of believing, but not upon his honesty. Each man should use the means he possessed to prove the truth of a stated fact or an opinion before he adopted it. From faulty premises came faulty conclusions, and they should therefore make sure of their facts that they were true, and hold it dishonest to themselves to accept facts simply on authority if they were provable by means of their own senses. And if honesty was one of the virtues whose presence was essential in their search after truth, no less was care. Caution seemed one of the most necessary virtues nowadays in scientific research. Another quality he wished them to include in their equipment in search of truth was perseverance. What Dr. Arnold said of boys was equally true of men, that the difference between one and another consisted not so much in talent as in energy. The greatest scientific men had been not the brilliant geniuses whose lamp shone early, but rather those who, having an object in view, had—and generally in the face of difficulties—steadily persevered. Then, again, they should have courage in their work, courage in their opinions when honestly worked out—moral, perhaps, rather than physical courage; but none the less was it the stuff which made our heroes of old. John Hunter, himself the most persevering and courageous of men, had said, "Is there any whom difficulties dishearten, who bend to the storm? He will do little. Is there one who *will* conquer? That kind of man never fails." If difficulties seemed to be in their way, they should remember one of Lord Bacon's sayings:—"The wise man is he who maketh opportunities rather than he who findeth them." He had to warn them against the excesses or perversions of the qualities of which he had spoken. They should not let their honesty be marred by coarseness, and in their relations with others they should be considerate. They should not let over-carefulness or caution prevent their ever making a forward step, or lead them to become victims of care, for anxiety was productive of serious mischief; and they should particularly steer clear of that disbelief which aped originality. Having spoken at some length as to the enduring influence for good or evil which the conduct of one student may have upon another, the lecturer expressed a hope that when their sunset came they might be able to say, like Thierry in his last moments, "There is something in the world better than sensual enjoyments, better than fortune, better than health itself—it is devotion to knowledge"—it is devotion to truth.

WESTMINSTER HOSPITAL.

INTRODUCTORY ADDRESS BY DR. W. CHAPMAN GRIGG.

DR. GRIGG offered some preliminary remarks on the value of introductory addresses, and pointed out the need and use of experiments on the lower animals. He then proceeded to illustrate and enforce the public importance of State medicine. "Our profession has more austere and sterner duties to fulfil, in advising and directing our legislators in dealing with grave sanitary questions more or less affecting the liberty of the subject, while supervising the health of the community, and jealously guarding it against any physical deterioration; and also the elimination of preventable diseases, from which annually upwards of two and a half millions are stricken, nearly a million of whom are maimed, disfigured, forced to drag out a brief and wretched existence, a misery to themselves and a burden to their friends, or a heavy tax upon the resources of the nation, while a quarter of a million prematurely perish. In these days of enormous standing Continental armies, and of sudden and predatory wars, it behoves our rulers, Spartan-like, to improve the physical well-being and mental faculties of the nation, and add, if possible, to the already great staying powers of our race, as at no distant period we may be called upon to fight for our very existence. Past and present experience proves that there is no truer or better friend to the general than the medical man, whether viewed in his civil or military functions—the former by looking after the physical condition of the mass of the population, in order to supply a high standard of able-bodied recruits to his army, and, for the latter, preserving them in health under the adverse circumstances of campaigning, so as to present the troops before the enemy in the highest state of combative efficiency, and also to rapidly restore the wounded to

the ranks. The ever-increasing population of towns at the expense of the country must, before long, make it a matter of serious consideration as to what steps shall be devised to prevent the gradually deteriorating influences, the outspring of town life, which, if not attended to, must seriously affect our national prosperity. It is of no use passing half measures, which only irritate the public without effecting any real benefit. If this course is pursued much longer, it will bring grave mischief upon the community by preventing all efficient legislation, as any really effective measures must materially affect vested interests. It is, therefore, doubly necessary that a well-digested, carefully-matured measure, one that may last a generation, should be, without further delay, brought before Parliament, and should, if possible, be approved of in its essential basis by the heads of both parties in the State. If not, our anti-sanitary legislation may become a very popular cry. In the meantime, it is incumbent upon the profession to work steadily on and strive to make the educated classes realise what great injuries are inflicted upon the mass of the population, as well as themselves, by an abnegation of the necessity for sanitary laws. We must not despair. Much has been done within the last twenty years, and no opportunities should be lost sight of. It was chiefly owing to our profession insisting that the fearful loss of life which occurred in the Crimean War through bad management was not a natural sequence of our war, that aroused the public attention to the necessity of proper precautions. Had they thrown in their influence with the military authorities and accepted it as a necessary evil, hygienic science would have been thrown back a generation. There is no exaggeration in saying that more lives have been saved as the result of the impulse given to sanitation by that war than were sacrificed during the whole campaign. The difficulties that exist in impressing upon the public mind the necessity of sanitary improvements are very great, confounding statesman and philanthropist alike. Any attempt at saving life and mitigating suffering would not unreasonably be supposed to meet a ready response from a nation like ours; but the callousness of ignorance and prejudice knows no bounds. ..... Let landlords, like railway companies, be made liable for compensation for injury to health or death arising through their carelessness or neglect, and we shall soon see some tangible diminution in our annual holocaust of helpless beings at present sacrificed to greed and ignorance." The lecturer next proceeded to speak of the preservation of maternal and infantile life in childbed, and specially directed attention to the injurious effects of the aggregation of the population in large towns and of the employment of females in factory labour. This evil was at its maximum in Lancashire, especially before the Factory Act came into operation. The injury both to mothers and children would go on increasing with the increase of our manufactures and the demand for female labour, if care were not taken by the Legislature to counteract the evil.

SOME

REMARKS ON THE MEDICAL EVIDENCE IN THE STAUNTON CASE.

BY W. S. GREENFIELD, M.D.,

ASSISTANT PHYSICIAN TO, AND LECTURER ON MORBID ANATOMY AT, ST. THOMAS'S HOSPITAL.

THE recent trial of four persons for the murder of the wife of one of them by starvation and neglect has attracted so much public attention, and the points of interest to the medical profession are so numerous, that no apology is needed for some remarks on the medical and medico-legal questions raised by it.

To my own position with regard to the case I may make a brief reference. Having been consulted for the defence, such medical evidence as came before the committing magistrate, and the post-mortem notes, were submitted to me for an opinion. I gave that opinion only reluctantly and under a sense of duty, knowing that the papers had already been sent to several distinguished pathologists who were out of town or about to leave. Nor did I know of anyone on whom I could devolve the task. The evidence which was laid before me was, in my opinion, of a very incomplete nature, and such as to warrant no definite opinion as to the cause of death. But at the same time it contained sufficient evidence to warrant very grave doubt as to whether death resulted from starvation alone. I gave my opinion then fully and impartially, and not concealing my great doubts as to the nature of the case.

Subpœnaed as a witness, I received also the information that notice would be given as to when my appearance in court would be necessary. Owing, however, to the error of a clerk, no notice was sent to me until after the medical evidence for the prosecution had been given; and as I was not aware that it was coming on, I missed the opportunity of hearing it.

Owing to a misunderstanding on the part of the learned counsel for the defence, questions were put to me to which no definite answer could be returned; and as the judge made a strong objection to my testimony on the ground that I had not been in court during the evidence for the prosecution, it was thought best, seeing his evident bias, to withdraw me as a witness.

I have made this explanation solely because I hold that it is the duty of every medical witness, when placed in the unsatisfactory position of an expert, to be ready to state precisely the grounds on which his evidence is based, and the motives by which he is guided. No method could be less adapted for the elucidation of truth than that in practice in our courts of law, but for my own part I could not consent to abate any portion of the truth to serve one or other side. The case, so far as I am concerned, has a purely scientific interest.

To the various points raised by the case I have of necessity given anxious consideration. The difficulty in forming any definite opinion as to the cause of death from the post-mortem notes alone resided in the fact that no definite statement was made of the tubercular nature of the bodies in the pia mater. But now that it has been definitely stated that miliary tubercle existed in the pia mater, and that statement is concurred in by all the witnesses of the post-mortem, and is corroborated by the presence of tubercle in the lungs, it must be accepted as a fact that there was tuberculosis of the meninges. I shall, therefore, assume this as being for the purpose an undoubted fact, and shall not further question it.

In examining the medical evidence adduced by the prosecution, I can only indicate the chief points under each head. I shall not attempt to detail the evidence on which my opinions are grounded. In the scope of a paper like the present extended quotations from authorities, or detail of cases, would be impossible. My statements as to tubercular meningitis are chiefly grounded on cases which have come under my own observation, of thirty-five of which I have more or less complete notes. I hope, on a future occasion, to give more fully the details of the more important, and fuller references to authorities.

The evidence consisted—(1) of symptoms observed by Mr. Longrigg; (2) of some statements by Clara Brown and the nurse Gooding; and (3) of the account of the post-mortem examination by Mr. Longrigg, Dr. Bright, and Dr. Wilkinson, in which Mr. Harman concurred.

The post-mortem notes have already been published in THE LANCET; they agree in the main with the evidence, though on some points the latter was fuller and more explicit.

Mr. Longrigg's evidence described a state four hours before death, consisting in (1) coma with stertorous breathing, (2) rigidity of one arm, and (3) minute contraction of one pupil with dilatation of the other.

The evidence of the nurse was that there was diarrhœa in the night preceding death, and that the patient "lay as if in a fit," of what nature is not stated. That of the girl Clara Brown is very unreliable; all that can be accepted as probably true is that the first acute symptoms were difficulty in understanding when spoken to, then drowsiness, and that there was no fit.

The more definite statements on the subject of tubercle are found in Mr. Longrigg's evidence, in which the other witnesses concurred. "There were old adhesions between the internal and external membranes, with a deposit of tubercular substance in the lining membranes. ..... There

were very minute tubercles on the brain, and, although there were symptoms of inflammation and tubercles in the lungs, I did not think it necessary to follow up the discovery of tubercles on the brain by microscopic examination. ..... There is a disease called granular tubercle, and it is indicated by tubercles such as I have mentioned on the brain. ..... It produces emaciation, but it is rapid in its progress, and is sometimes fatal in forty-eight hours. ..... That disease was not sufficiently advanced to produce the symptoms." He was also asked, "If she had had acute tuberculosis, what effect would that have had upon the brain?" and replied, "It would have produced softening of the brain." Mr. Longrigg is probably not responsible for the form of the words, but they may be taken as conveying generally his meaning.

Before considering the conclusions which must inevitably follow if the account of the post-mortem is correct, a word may be said as to the value of the post-mortem notes in determining the cause of death. Their value is vitiated by the fact—(1) that the examination was not made till 143 hours after death; (2) that it was very incomplete and the notes themselves still more so, whilst the way in which they were made and recorded reduce their value to a minimum; (3) that no due allowance was made for the changes in the body which must ensue in such weather in six days, and of the presence of some of which there is distinct evidence; (4) that certain statements are made of appearances which, though regarded as normal, would be remarkable indications of disease.

Two or three points demand special mention. It is stated that "*all the cavities of the heart were contracted and empty.*" Such a fact, even as regards the left ventricle, so long after death in ordinary temperatures, would be very remarkable, and is inconsistent with the statement, "coronary vessels much congested, giving the appearance of being injected," which can only refer to the colour of the lining membrane either of the coronary veins or arteries (which is not stated), evidently the result of post-mortem dissolution of the blood and consequent staining.

On the subject of "*congestion*," a term which seems to be used to include fulness of vessels as well as abnormal redness of whatever kind, I shall comment later. Only on the appearances of the brain I may remark: (1) that if it was "very firm" six days after death, with adhesions of the opposed surfaces of the arachnoid, I should regard it as presumptive evidence of old disease, probably diffuse sclerotic change; and (2) that whilst a general reddening, especially of the surface, occurs as a post-mortem change, a distension and engorgement of the sinuses and veins, and marked excess of puncta cruenta, do not result from that cause, but would indicate a condition produced in life. If any importance attaches to the extreme general redness of the membranes and brain, which, if there was really a healthy firm condition of the brain, must be assumed to be the case, it would be a sign, not merely of congestion, but of commencing encephalitis.

I shall now briefly summarise the grounds which lead me to consider that death was due to tubercular meningitis, if the statements of the medical witnesses as to facts are accepted.

The symptoms observed in life—drowsiness passing rather rapidly into coma, with stertorous breathing, rigidity of one arm, and extreme inequality of pupils—are consistent with cerebral disease, and, in my experience, inconsistent with starvation *alone*.

The presence of miliary tubercle in the pia mater, even if in small amount, as seen with the naked eye, is of itself a sign of very serious cerebral disease, and, so far as my own experience goes, or that of pathologists of large experience of whom I have inquired, or whose works I have read, it is never found after death in cases which have not presented cerebral symptoms during life. (Bristowe, Murchison, Payne, Wilks and Moxon.)

In the rarer form of tubercular meningitis, in which the tubercle exists *only* on the convexity of the brain, there is an absence of lymph exudation at the base, and of hydrocephalus; and there *may be* an absence of exudation on the convexity, and of softening of the brain-substance; a condition of extreme engorgement of the superficial veins, of general intense reddening of the pia mater, and a very vascular condition of the subjacent cortex, with more or less of the white matter, being the only sign of early inflammation visible with the naked eye. This also rests on my own observation, and the statements of authorities (Huguenin and Gee).

In this form ("tubercular meningitis of the convexity") death is usually much more rapid than in the commoner form (Gee). Even in the common form the amount of hydrocephalus and of brain-softening is very highly variable, and their amount bears no definite proportion to the severity of symptoms or rapidity of course. When chronic brain disease exists the changes in the brain and the symptoms are often greatly modified (Huguenin).

The onset of tubercular meningitis in the adult is often much more sudden and unexpected than in the child, and, in my experience, the disease is more rapidly fatal, in some cases only from twenty-four to thirty-six hours elapsing between the definition of the disease and death.

The symptoms of tubercular meningitis, protean even in the child, are far more so in the adult, in whom they may simulate almost any form of cerebral disease. Drowsiness passing into coma may be the only symptom observed (Bristowe). Precise distinction between the symptoms of meningitis of the convexity and of the base is not possible in all cases. In some cases of the former the symptoms closely resemble those of meningeal hæmorrhage.

Convulsions, the rule in children both in the basic and convexity forms, and more marked in the latter, are far rarer in adults—usually, indeed, absent, unless in certain cases of the convexity form.

Rigidity of one or more limbs is observed in a certain number of cases. It may be a constant tonic contraction, or a resistance of one limb to movement, attempts to move it being met by resistance of the muscles, the limb usually lying quiet as if paralysed; or there may be a rigidity, simulating cataleptic rigidity, of the limbs, trunk, and neck. In cases of meningitis of the convexity in children this condition often persists till death, alternating with slight convulsive movements. In the adult the rigidity is often of more passive form, visible convulsive movements hardly occurring. But the variations of this frequent symptom in meningitis constitute too wide a subject to be discussed here.

Inequality of the pupils may or may not be present in tubercular meningitis of the base. In many cases the pupils are equal, or nearly so, throughout, so far as my observations go. So far as I have been able to judge by observation during life, and minute research after death, this inequality of pupils does not depend, as usually stated, upon implication of the nerves at the base, but upon central irritation. My observations upon this point in convexity meningitis are not sufficiently extensive to be of any decisive value, but in one case of meningitis of the convexity, the tubercular nature of which was not decided, but which I now believe to have been tubercular, from analogy with other cases, and on the authority of a dictum of Hillier, there was, about two hours before death, minute contraction of one pupil, whilst the other was dilated and of irregular outline (THE LANCET, Sept. 20th, 1873). I have no similar note as regards any case of basic meningitis, in which I have frequently noted equality or nearly equality of the pupils shortly before death. There is of course no doubt that great inequality of the pupils may occur in basic meningitis.

Diarrhœa persisting up to the time of death does not negative the presence of tubercular meningitis. I have noted its presence in two cases in very marked degree. It is usually, but by no means necessarily, associated with tubercular ulceration of the bowels.

I may add to these, that at the onset of tubercular meningitis in the adult it is almost invariably mistaken for some other disease, often I believe for hysteria in females; or the patient becomes stupid, drowsy, and torpid, says and does odd things, and is supposed to be going out of his or her mind. In females the catamenia may be absent, or may cease suddenly, and the slight head symptoms be supposed to be due to this cause. Headache is not a necessary though a very common symptom of onset.

Emaciation does not *necessarily* accompany or precede tubercular meningitis. But it is an error to say that where it does exist it is of necessity dependent upon associated general tuberculosis. For example, in two recent cases of young women (aged twenty-one and twenty-four), both were well nourished, one had abundant subcutaneous fat;

yet both had general tuberculosis of some standing. On the other hand, in a male aged thirty-four, who had only tubercular meningitis of very acute and rapid form, and no tubercle discoverable elsewhere in the body, there was great emaciation, and the liver weighed only thirty-nine ounces. There were no other discoverable antecedent causes to account for the emaciation. And other cases might be brought to show that in the adult, as in the child, great emaciation without obvious cause may precede the onset of the acute disease, and no amount of extended tuberculosis or lung disease be found to account for it.

Here I may mention a patient now under my care, a young woman twenty years old, 5 feet 4½ inches high, not of particularly slender build, who for some few months has been losing flesh, but has no discoverable disease beyond a small patch of dulness at one apex, with no active signs. All the other causes of emaciation have been most carefully sought and never found. She weighs, with her boots and most of her clothes on, only 80 lb. (the weight of the body of Harriet Staunton was 75 lb.); yet she has no acute symptoms, no suffering, can walk about well, and in a sense enjoys life. A year ago she was robust, stout, and hearty.

The *weights* of organs in persons dying of this disease naturally vary within wide limits. But a striking fact may be mentioned—viz., that in two cases of tubercular meningitis, mentioned above, in which there was absolutely *no* emaciation, the weight of the healthy livers was respectively 32½ oz. and 34 oz., and in marked disproportion to the other organs. The subject of weights of organs is too wide a one to be treated here in detail; as a general statement, derived from a careful analysis of their weights in the notes of 800 post-mortems, I may state that 7¾ oz. for the heart is a high rather than a low average weight for an emaciated female thirty-four years of age, and that it is quite consistent with health and no emaciation; that 4½ oz. for the spleen is considerably in excess of a number of cases of men and women younger and of the same age in perfect health; that 7¾ oz. for the kidneys is also perfectly compatible with health, and that the weight of the kidneys is, perhaps, the least valuable criterion of emaciation.

One or two words in conclusion as to post-mortem evidence of *starvation*. I have myself made and noted nearly 900 post-mortems, and I have seen, perhaps, 400 more. I can honestly state that I know of no criterion by which the emaciation due to want of food, from inability to ingest it, or from deficient supply, can be distinguished from that resulting from chronic wasting disease, or even from acute febrile disease or diarrhœa. The exact number of cases in which there was inability to ingest food, owing to stricture of the œsophagus, or disease about the mouth and throat, I cannot precisely state, and, perhaps, the number is not large. But to state that a congested appearance of the stomach, or of the brain, or of the outlets of the body, is a sign (!) of starvation, and, moreover, of chronic starvation, is to my mind an outrage upon medical science.

I have already remarked that the appearances derived from "congestion" in a body six days after death are utterly fallacious. But even if they had been seen soon after death, what would they have proved?

Of the *vulva* and *vagina*, in a woman with leucorrhœa, they would prove absolutely nothing.

Of the *rectum*—i.e., its mucous membrane "in the last four inches,"—it is said to have been "*much congested*, and presented a striking contrast to the bowels above the sigmoid flexure, the membrane of which was pale and exsanguine." Now, this candid description is that of a very common post-mortem phenomenon. The simple explanation is that the distribution of the vascular supply of the lower four inches of the rectum is different from that of the upper part (see Quain's Anatomy, article Rectum). Anyone who has examined the rectum frequently will often have noticed this marked difference. Moreover, when diarrhœa is present it would be especially liable to occur.

Of the *stomach*, "very marked and intense congestion of the internal lining, especially along the upper curvature." More or less congestion of the mucous membrane of the stomach, and even ecchymoses, are very common, and the ordinary rule is not to attach much importance to it. "This congestion was remarkable, and quite unlike ordinary post-mortem congestion." "Post-mortem congestion" is one of two things, a subsidence of the blood in the veins to the most dependent part, or a staining of the coats due to dissolution and transudation of the blood-colouring. But in persons who die during the process of digestion the mucous membrane is often of deep-red colour, dependent on active hyperæmia. It is well known that when fluids are taken they pass first along the lesser curvature, and if of irritant character set up irritation there; but brandy-and-water, or sal volatile, would be quite sufficient to set up congestion of the character and position described. That it is evidence of starvation is pure hypothesis. *Total* deprivation of food for some time, and then the ingestion of food, *might* cause it, and therefore it is held to be evidence of *chronic* starvation.

As to the *brain*, the statement that congestion of the brain is one mark of chronic starvation is not only not true, but is the exact reverse of truth. That it *may* occur in *acute* starvation no one would deny; but one of the most essential results of chronic deficiency of food, whether experimental or from disease, is to cause an anæmic condition of the brain. In fact, it has been shown by the experiments of Panum and others that whilst in acute complete starvation the blood-corpuscles do not notably diminish before death, in slower starvation there is a very great decrease, so that the blood becomes thin, pale, and watery. All the organs show the effect of this, but notably the brain, since it is the last organ in the body to waste. If there was in reality, as stated, an extreme congestion of all the bloodvessels and of the brain, and the blood was of normal colour, it would be one of the strongest evidences that death was not due to chronic starvation. The theory adopted was, "convulsions *may* occur in acute starvation, congestion may be supposed to be the cause of convulsions—*ergo*, congestion may occur in, therefore is a sign of, starvation." Such logic, though well enough for legal argument, will not serve even for a formal hypothesis in science. I do not for one moment deny that congestion of the vessels of the brain may occur in the course of, and be found post mortem after, the various cerebral accidents which sometimes complicate anæmia and exhaustion. I have, in fact, myself given instances (in a paper on "Insanity as a Sequel of Acute Disease and Hæmorrhage," St. Thomas's Hospital Reports, 1873); but on a careful search into the literature of the subject I could find but few examples of such a condition, nor does my own experience furnish any. In all the cases I have seen, even after convulsions and delirium, the brain was pale and anæmic. And, be it added, in nearly all these rare cases of acute cerebral symptoms in conditions of exhaustion there was an immediate determining cause—i. e., the cause was acute, the symptoms rapidly following. Minute contraction of one pupil, with dilatation of the other, would, so far as my knowledge goes, if the eyes were previously healthy, be absolutely inconsistent with such a cause as starvation or anæmia.

The condition which alone, apart from emaciation, would point to death from starvation—namely, a wasted and contracted condition of the stomach and atrophy of the intestines—is not even mentioned in the post-mortem notes.

So far, then, there seems to be in the medical statements as to facts no particle of evidence that the emaciation was due to want of food, and still less to wilful starvation. On the other hand, there is evidence that the immediate cause of death was an acute disease, nor is there anything to show that it was induced or increased by starvation and neglect. Undoubtedly its fatal issue may have been accelerated by incautious removal, but to a similar indictment a very large number of those who bring patients to hospitals must also plead guilty. I have not here entered fully into the question—which is of necessity raised by the general evidence given on the trial and facts which have since come to light—how far the mental disease which is proved to have existed might in part account for the emaciation and the acuter symptoms, and to what extent the condition of the brain which was found after death indicates chronic brain disease. In my original report, given before there was positive evidence as to tubercle, I pointed out the possibility that the greater part of the morbid conditions and of the symptoms might have been associated with paralytic dementia. At that time I knew nothing of the history of the deceased, but the further evidence has strongly confirmed my view. I quote therefore, entire, the portion of my report bearing upon this subject.

"Thus far it has been assumed that the bodies found in the pia mater were tubercular, or that there is at least reasonable ground for the belief that they were so. But it is

possible that this belief may not be maintained, or that further and more complete statements as to the nature, position, and appearances of these bodies may lead to great doubt as to whether they were such. That they were indicative of some disease there can be no doubt. Is there any alternative view which may be offered as to their nature, which is consistent with the other appearances, symptoms, and mode of death?

"The appearances described in the brain and its membranes indicative of some disease were—(1) Undue adhesion of the dura to the pia mater, attributed by the medical men to old inflammation, which they believed to have resulted from a blow or fall. The extent and character of these adhesions are not stated. (2) The presence of small millet-seed-like bodies in the pia mater above described. (3) A *firm condition* of the brain *six days after death*, with marked distinction of the grey and white matter. If this condition is accurately described it is very remarkable, and would, in my opinion, indicate disease. (4) General and well-marked congestion of the vessels and membranes of the brain and of the brain-substance.

"It seems not improbable that the first three of these conditions may have been the result of some old chronic changes such as are found in some forms of insanity, for (*a*) the hypothesis of injury to account for (1) unless there were other signs of such injury, would, I think, be inconsistent with experience. (*b*) These may have been small fibrous nodules, such as are found under similar conditions to (1). This must remain uncertain. (*c*) A firm condition of the brain so long after death in such weather would, in my experience, be inconsistent with health, and would very probably indicate a similar indurated or fibrous condition which may be associated with (1) and (2).

"If any value attaches to (4) it would probably indicate that death occurred in an attack of acute congestion supervening on the chronic brain disease..... At present, as the tubercular nature of these bodies in the pia mater is maintained, the further questions arising out of the other possible view need not be discussed; *but it is important that this alternative be not lost sight of.*"

It is only right to add, that, as I have said before, the tubercular nature of the nodules seems now to be pretty certainly established. Of the "acute congestive attack" in paralytic dementia, I do not think I have had any post-mortem experience; the statement rests on the authority of Griesinger. But by the combination of paralytic dementia with tubercle, all the facts of the case would be fully explained. Rapid wasting is not infrequent in some cases of general paralysis and other forms of insanity, even where food is taken in fair quantity.

In view of the importance of the issues, not only in the present case, but in future cases of a similar kind, it has seemed only right to state the grounds on which the view of starvation alone appears to me to be untenable. And if food was supplied in insufficient quantity, the proof of that fact must, in my opinion, rest entirely upon positive evidence as to the food actually given.

ON FILARIA BANCROFTI.

BY T. SPENCER COBBOLD, M.D., F.R.S.,
PROFESSOR OF BOTANY AND HELMINTHOLOGY IN THE ROYAL VETERINARY COLLEGE.

THOSE who take an interest in helminthological studies may remember that in the month of July last I was permitted to announce in THE LANCET (p. 70) the discovery of a new entozoon. In honour of the discoverer I named the worm "Filaria Bancrofti"; and further, in consonance with the views of Dr. Bancroft, I expressed the opinion that this worm was neither more nor less than the sexually mature representative of that microscopic hæmatozoon which Lewis has denominated "Filaria sanguinis hominis." Judging from the amount of correspondence which I have received, the announcement appears to have excited much interest abroad; but in this connexion I can only find space to express regret that I am not in a position to utilise more fully the interesting matter that has been thus freely communicated. To Mr. Clarence Visich, of Malaga, who was formerly connected with St. George's Hospital, I am indebted for a set of capillary tubes charged with blood from one of his chylurous patients, and also for an extended set of notes of cases bearing on this subject. My acknowledgments are also due to Dr. Sonsino, who not only brought the subject before the Biological Section at the recent Geneva Congress, but who also offered to exhibit Dr. Bancroft's specimens to the meeting. Time failed me to comply with his thoughtful suggestion.

What I have now to say is the result of personal observation, based on materials sent by Dr. Bancroft. If space permitted, I should not merely supply some further account of the entozoon itself, but should also add a few particulars of the cases furnished by Dr. Bancroft, together with copies of the photographic illustrations accompanying them. The most interesting portrait is that of a youth presenting an axillary tumour of filarious origin, for which Dr. Bancroft proposes the title "Helminthoma elastica" (in harmony with the more distinctive characters of the growth). It is to be hoped that his cases of helminthoma, elephantiasis, varix, and so forth, will be published separately.

On the 28th of August I received a small collection of entozoa. The box contained the promised filariæ, and also eight bottles filled with various intestinal worms taken from animals. The filariæ were enclosed in four small tubes and preserved in glycerine. Three of the tubes (marked 1, 2, 3) contained sexually mature worms; the fourth being labelled "Sediment from adult *Fil. sang.*—young and ova." I shall describe their contents in succession.

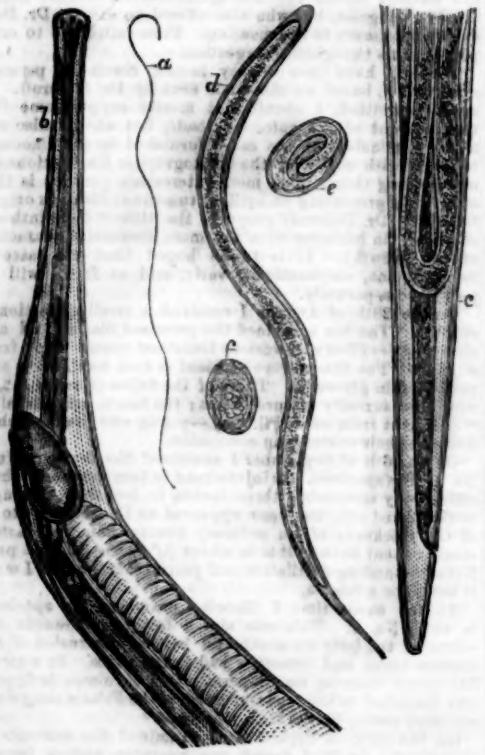
On the 6th of September I examined the filaria in tube No. 3. The specimen was injured and in four portions; these collectively measuring three inches in length. Although, to the naked eye, the worm appeared to Dr. Bancroft to be of the thickness of an ordinary human hair, yet actual measurement showed it to be about $\frac{1}{30}$" at the thickest part. Notwithstanding mutilation and partial evisceration, I made it out to be a female.

At the same time I likewise examined the specimen in tube No. 1. This was also a female. Towards the centre of the body an accidental hernial protrusion of the uterine horns and intestine had taken place. In a rough lithograph sent by Dr. Bancroft, this specimen is figured and described as the "parent worm of the Filaria sanguinis, emitting young filariæ from two loops."

On the 14th of September I examined the contents of tube No. 2. In it I found one tolerably perfect female filaria, and also a delicate shred forming part of one of the uterine horns of another worm. This filament measured one inch and a half in length, and was coiled round the complete worm. On transferring it to a watch-glass containing water, hundreds of embryos made their escape. Owing to the transparency of the tissues, I had much difficulty in finding the reproductive outlet in the perfect worm, and the effort to find the opening was all the greater because my interpretation of Dr. Bancroft's figure had put me off the right track. It seemed so natural to suppose that the "loops" protruding from the centre of the body resulted from an ordinary prolapsus uteri, so common in preserved specimens of nematodes. At length I found the vagina and its orifice to be situated close to the head (about $\frac{1}{10}$" from it), the anal orifice being placed within the $\frac{1}{10}$ of an inch from the extremity of the tail. Presumably, these openings were both on the ventral line, but I could not determine the point with certainty. The vaginal pouch, $\frac{1}{100}$" long, was crowded with embryos, and a constriction marked its junction with the uterus proper, which appeared to me to divide lower down at a distance of $\frac{1}{10}$" from the head. Towards the tail a fold of the tuba Fallopii was seen to extend to within $\frac{1}{10}$" of the extremity. All sections of the uterine system were crowded with germs, eggs, and embryos in their usual relative situations.

My examinations of the ova and embryos were chiefly made from the "sediment" sent in the special glass tube. The fully formed embryos were $\frac{1}{175}$" in length by $\frac{1}{3750}$" in breadth. They each showed a double skin, the outer envelope in the more advanced specimens leaving clear spaces at either end of the body, resulting from commencing ecdysis. I saw no trace of intestinal tube, but a central line of condensation marked an early differentiation of the somatic granular contents. The less advanced embryos

were mostly enclosed in a chorional envelope, the smallest free embryos measuring only $\frac{1}{250}$" in length, by $\frac{1}{2500}$" in breadth. These had no double contour. The ova, whose yelk-contents were still in various stages of cleavage, gave an average long diameter of $\frac{1}{150}$ to $\frac{1}{1500}$ of an inch.



a, Filaria Bancrofti, female, natural size. *b*, Head and neck, showing œsophagus and vagina; magnified 55 diameters. *c*, Tail of same, showing fold of tuba, and termination of intestine; magnified 55 diameters. *d*, Free embryo; magnified about 400 diameters. *e*, Intra-chorional embryo; magnified 300 diameters. *f*, Egg; magnified 360 diameters.

Such are the facts that I have been able to make out. If they do not supply all that one could desire, they, nevertheless, enable me to extend and amend the characters of the species as follows:—Filaria Bancrofti (mihi). Body capillary, smooth, uniform in thickness. Head with a simple circular mouth, destitute of papillæ. Neck narrow, about one-third of the width of the body. Tail of female simple, bluntly pointed; reproductive outlet close to the head; anus immediately above the tip of the tail. Length of female, 3½ in.; breadth, $\frac{1}{100}$"; embryos, $\frac{1}{250}$" to $\frac{1}{125}$" in length, by $\frac{1}{2500}$ to $\frac{1}{1250}$ in breadth; eggs, $\frac{1}{1500}$ by $\frac{1}{1000}$.

The male of this worm I have not seen.

As regards the nomenclature, I have associated Dr. Bancroft's name with the sexually mature worm as being in harmony with the binomial method and little calculated to mislead. At the same time it helps to fix both the source and date of the discovery (Brisbane, Dec. 21st, 1876). This concession in the matter of nomenclature towards a highly meritorious observer, and able surgeon, detracts nothing from the higher merits of Lewis, who first named the immature worm, Filaria sanguinis hominis. Both Dr. Salisbury and myself had previously been made acquainted with intra-chorional embryos, which are, I think, the young of Filaria Bancrofti; but it was reserved for Lewis to discover the hæmatozoal character of the young of this worm and actually to take them from the blood. Should my determination of the genetic relationship of these embryos with Filaria Bancrofti be subsequently verified, it would obviously be absurd to call the adult worm Trichina cystica; yet Salisbury gave this name to the urinary parasite. It certainly was a very singular thing that when I was actually treating my little African patient for trematode hæmatozoa, it never once occurred to me that the numerous nematoid embryos, mixed with the Bilharzia ova, were also hæmatozoal. It was alleged that my patient had passed worms two or three inches long by the urethra. Naturally I concluded that these were the parents of the eggs and embryos, and therefore urinary. The inference was wrong; but it has since become instructive, as showing how near one may go towards a discovery without actually making it.

Appendix.—Since the above was written Dr. Lewis has himself furnished additional means of identification. His mature Filaria sanguinis hominis and my F. Bancrofti are clearly the same species. I will go further, and express the opinion that all the various larval forms severally described by Salisbury, Lewis, Sonsino, Wücherer, Crévaux and Corre, Silva-Lima, Bancroft, and myself, are referable to one and the same species. If Lewis's trinomial name for the adult worm be adopted in place of Filaria Bancrofti, I have personally no objection.

Portsdown-road, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

ST. MARY'S HOSPITAL.

INJURY TO THE PALMAR ARCH; TETANUS AND HÆMORRHAGE; LIGATURE OF THE BRACHIAL ARTERY; RECURRENT HÆMORRHAGE; LIGATURE OF THE RADIAL AND ULNAR ARTERIES; RECOVERY.

(Under the care of Mr. HAYNES WALTON.)

For the notes of this complicated but instructive case we are indebted to Mr. Rayley Owen, house-surgeon.

C. F——, a fine-looking boy, aged three years and a half, was brought to the hospital on the 26th of June, with severe hæmorrhage from the palm of his left hand. The father stated that while running his son fell and cut his hand on a piece of a glass bottle. A small but deep wound over the deep palmar arch of the left hand resulted. Hæmorrhage was stopped by tight pressure, and the boy progressed favourably until July 4th, when bleeding began again suddenly; and in this instance also it was arrested by pressure; but as it broke out again next day, the lad was admitted into the children's ward. On admission the temperature was 102·2° and the pulse 125. The father alleged that on the preceding day the boy complained of stiffness in his jaws and difficulty in swallowing, as well as of increased pain in his hand and arm; and he further stated that while standing the body was suddenly arched forwards and the head bent back. The wound was suppurating, and had an offensive smell. The child was quite sensible, but could scarcely open his mouth or put out his tongue, and he complained of pain in his chest, face, and head, but none over his spine. Two grains of calomel, and afterwards two five-grain mercury-and-chalk powders, were given, after which the bowels were well opened; four grains of bromide of potassium and one drop of tincture of opium to be taken at night. In the evening the hands and mouth began to twitch, the chest and abdomen became quite rigid, the body arched, and the face had a most peculiar grin. The severity of the symptoms was much increased when the temperature was taken, which was 100·8°. The spasm, which varied in intensity, recurred every fifteen minutes. Trismus was most severe, and it was with difficulty that the boy could be got to swallow.

On July 7th he was rather better, and the attacks were not so frequent, but in the evening bleeding recurred, but

was stopped by pressure. Temperature 99°. Three drops of laudanum were given him. He had a quiet night, and was rather better next day, although the spasms were still frequent.

On the 9th one-fortieth of a grain of extract of Calabar bean was injected subcutaneously in the morning, again in the evening, and twice on the 10th. After this the boy seemed much quieter, but he said that his muscles were "so tight." The wound was dressed on the 10th, and there was a most offensive discharge. A slight bleeding occurred on the night of the 9th.

11th.—Not so well, and very restless, severe hæmorrhage having occurred at midday. Mr. Walton decided to ligature the brachial artery, thinking it the readiest way to finally stop the bleeding. The operation was done in the usual way, and the vessel tied with carbolised catgut. The radial pulse could not be felt after the operation, but was just perceptible in the evening. Temperature 102·2°; pulse 120. He was unable to pass his water during the night, and it had to be drawn off. There was a decided stricture of the urethra, some force being necessary to pass it.

On the 12th there was still much trismus and spasm. The injections (subcutaneous) of Calabar bean were continued, and five drops of tincture of opium were given at night.

14th.—He was about the same, but was still unable to pass water. There was no sign of healing of either wound. 1 P.M.: Temperature 104·2°; pulse 140. The temperature was reduced in an hour's time to 103°, by five grains of quinine and four drops of tincture of opium in a teaspoonful of brandy.

On the 16th there was great and offensive discharge from the hand. The spasms had ceased, but trismus was still severe. Temperature 102·6°.

18th.—The arm was much swollen, and had a peculiar "boggy" feel. The incisions let out two or three ounces of offensive pus. The first and second fingers were much flexed.

21st.—More pus let out. The whole forearm seemed infiltrated with pus. In the afternoon, since ligature of the brachial (eighth day), while Mr. Walton was in the ward, most furious bleeding began again, the blood spurting out for some distance. As a last resource Mr. Walton determined to ligature the radial and ulnar arteries. The operation was performed with difficulty, owing to the deep and extensive suppuration, the relations of the tendons being disarranged. The vessels were cut down upon by separate incisions, and tied with strong silk ligatures. When the boy was placed in bed the arm was extended above his head, in a line with his body, and tied to the upper part of his cot. Temperature 103·4°. Ordered one grain of quinine and four drops of dilute sulphuric acid in water three times a day; to have four drops of tincture of opium at night.

He had a quiet night, but was very ill next morning. He was, however, quite conscious, and the fingers were warm. Temperature 101·4°.

On the 23rd the incision over brachial artery showed signs of rapid healing. The boy was a little better, but very weak. On the 27th he was decidedly better; the wounds were more healthy, and the pus was less in quantity, and not so offensive. Temperature 102°. The ligature on the radial came away on the next day, and that on the ulnar on the 29th.

On the 31st another incision had to be made into the arm, which let out a great deal of pus. The hand was swollen and puffy, and the first and second fingers were still much flexed.

On August 3rd he was much improved, and the discharge was less. Temperature 101°. All the incisions were healing. Five drops of tincture of perchloride of iron added to each dose of quinine.

From this time he progressed satisfactorily. On the 10th the hand was much less swollen, and the discharge had stopped. The fingers were more movable, and the temperature normal for first time.

The fingers were forcibly extended every day. He remained very weak for some time, but he gradually improved in health and appearance. The second finger became straighter, but on the 17th the first still remained slightly flexed. With the exception of this, and the various incisions in the arm, there was no difference between the two limbs. He was discharged cured on September 7th.

LONDON HOSPITAL.

AGUE WITH RETINAL HÆMORRHAGE; REMARKS.

(Under the care of Dr. STEPHEN MACKENZIE.)

FOR the notes of the following interesting case we are indebted to Mr. R. Atkinson and Mr. Lawton.

W. M——, aged forty-nine, ship's fireman, was admitted on July 11th, 1877. The patient said that he did not know of having had any illness as a child. He never had measles, scarlet fever, or rheumatic fever. He had been twenty-five or twenty-six years at sea as a fireman, and during that time had had good health. Most of his voyages had been up the Mediterranean and Black Sea, but he had also been to America, India, and Brazil. He had never had fever or ague before, though he was once on a ship whose whole crew except three men had one or other of those diseases.

In May last his ship went to Salonica, and lay there three days while the cargo was being taken. From this place the ship sailed directly to Plymouth, only calling two hours at Malta. Eighteen days after leaving Salonica he had his first attack of ague. He first felt cold and shivered, and his teeth chattered. The cold stage lasted about two hours and a half, and was followed by burning heat with perspiration. The hot stage lasted four or five hours. From this time he had a paroxysm on every third day; he being quite well between the attacks, except that his back and head ached. The steward gave him some turpentine to drink, but it did him neither good nor harm. After remaining in this condition for about a week, the periodicity became altered, the paroxysm taking place every other day. A week before admission he began to have the attack every day. It had that character at the date of admission, but it did not recur at the same hour. During the three days immediately preceding admission it came on between 12 and 1 P.M.; the cold stage now not lasting longer than twenty or thirty minutes, while the hot stage was nearly as long as it was at first—viz., three or four hours.

Since his illness he had not lost flesh, but had become very weak. His appetite was variable; his bowels constipated. He had not vomited. His urine had been thick, but was not altered in quantity. During the last week the feet have become swollen after standing any length of time.

On admission he had anæmic lips, watery conjunctivæ, puffy-looking eyelids, and a cachectic, sallow complexion. His tongue was covered with a brown fur. He was able with each eye to read No. 1½ of Snellen's test type with some difficulty; No. 2 of Snellen he could read easily.

Ophthalmoscopic examination of the right eye revealed a large hæmorrhage in the retina, situated a little to the right of the junction of the two lower quadrants, about one diameter of the disc below the lower margin of the disc. It was fan-shaped, with the apex upwards, of bright-red colour, deeper in tint at the centre than at the edges, giving the appearance of being spread out. In size it about equalled the diameter of the disc. It surrounded a large descending vein, which it partly obscured, and from which it appeared to have escaped. The descending artery which accompanied the vein ran through the hæmorrhage, but did not convey the impression of being causally connected with it, being excentric to the extravasation. The hæmorrhage, on the other hand, closely surrounded the vein, its apex being applied to the trunk of this vessel. The ocular media had a peculiar mistiness; the eyes were highly myopic.

The man had a very wide costal angle and thorax. The chest was hyper-resonant on percussion, and there were sibilant râles to be heard all over both lungs; at the right base posteriorly there was a bad percussion note, with a sound faintly resembling a friction sound. There was no increase of the cardiac dulness. The situation of the apex-beat could not be easily made out; it was not heaving or increased in area. The heart's first sound at the apex was murmurish. Splenic dulness extended about two and a half inches above the costal margin, and the spleen could be slightly felt in the abdomen. There was slight œdema of the feet (this was much greater on the previous day). The blood, examined microscopically, was found to be free from pigment or excess of colourless corpuscles. The urine was clear and of a bright reddish-brown colour; it was not the red hue imparted to urine by the admixture of blood. Its

specific gravity was 1020, it contained 1·3 per cent. of urea, and was free from albumen.

July 12th.—About 3 o'clock patient said he felt cold. His temperature was 98° F. at 2 o'clock, and was not elevated at 3.30 or at 4.30, though he shivered very much and got himself covered up in bed. He complained of shortness of breath, headache, and pain in the back of the neck. He said that when the fever was on he had a queer feeling in his head, and was quite light-headed at times. By this he meant his head felt strange but not delirious. Before the onset of the shiverings he felt a coldness at the back of his hands.

13th.—Though the patient went through a regular paroxysm of ague yesterday, or what he called ague, his temperature was taken hourly, and did not rise above 98°; he had frequent (several in an hour) chills or flushes of heat; cough troubled him a little.

He had no shivering, and no rise of temperature for several days after July 12th. (It ought to have been mentioned that on the day of admission patient had, while in the waiting hall, five grains of quinine in a glass of hot brandy-and-water, which probably accounted for the abortive paroxysm which followed the next and subsequent days.) He had no quinine after admission into the ward until the 23rd.

On the 16th, the hæmorrhage in the fundus was still very distinct, but had not quite so well defined a margin as when first seen. No fresh hæmorrhage had been discovered, though the fundus was examined daily.

On July 21st, in the afternoon, he had a regular paroxysm of ague. At 2 o'clock his temperature was 103° F.; at 3 it was 106°; at 8, it had fallen to 102·6°, and he felt much better. No fresh hæmorrhages were discovered in retina.

On the 23rd, in the morning at 11, he had a rigor. Temperature 99·4°. During rigor an emetic was given, and followed by two-grain doses of quinine. At 12 the temperature was 105°, after which it fell gradually. In the evening his skin was covered with perspiration, and the sister reported that during the afternoon he had been a little delirious.

He had no shivering after this date. There was no fresh hæmorrhage, and the old one gradually became fainter, and finally disappeared without leaving a white patch or any trace behind. It was, however, noticed on Aug. 9th, that the descending vein close to which the hæmorrhage was situate appeared of irregular calibre at different points. The patient, having steadily improved, was sent to the country for a fortnight on Sept. 12th.

Remarks by Dr. MACKENZIE.—The chief point of interest in the above case is the occurrence of hæmorrhage in the retina in connexion with ague. When the patient came to me he was in the cold stage of a paroxysm, and the hæmorrhage was then present. It seemed recent, but how long it had been thus it would be impossible to say, as hæmorrhages in the retina behave so differently as regards alteration in colour and absorption. This makes the fourth case of ague in which I have found hæmorrhages in the retina. I have elsewhere discussed the importance and interest attaching to the association between the retinal hæmorrhages and the ague. But though I have found hæmorrhages in four cases, it is only fair to state that, since my attention has been directed to this point, I have examined a good many cases of ague without finding retinal extravasations. I have not yet been able to discover any determining cause of the hæmorrhages in the cases in which they have been found. All the cases of ague in which I have hitherto discovered them have been tropical ones of some severity, and in one case only has there coexisted melanæmia. But in many tropical cases they are absent. I examined recently at the Seamen's Hospital ten patients of Dr. Ralfe's, all suffering from malaria, and several from well-marked ague of different degrees of severity, without finding hæmorrhages in any one of them. There are three cases of ague in the London Hospital at the present time, two foreign and one native, but not one of these has hæmorrhages. I have also a case of "South-coast fever" under my care, in which there are large hæmorrhages into the skin, but none into the retina. The chief importance of a recognition of the occurrence of retinal hæmorrhages in ague seems to me to be the light it throws on the probable condition of the nervous centres in this disease. The above case of ague, it will be observed, was a severe one, quotidian in type when it came under my observation. The patient was very cachectic; there was slight œdema of the feet, and much bronchitis. His appearance was very suggestive of Bright's disease, and the retinal hæmorrhage might have been attributed to this cause. His urine, which was daily examined, however, showed that the renal functions were properly discharged, and if there had been any doubt on this point the specific influence of quinine would have dispelled it. The effect of the first single dose administered in the form in which I gave it when the patient was in a paroxysm was very striking and very puzzling to the house-physician, who did not know of its administration. When this had worn off, and the paroxysms returned, they, as well as the bronchitis, yielded very promptly to small doses. The patient cannot be said to have had any defect of vision from the hæmorrhage. His sight was defective from myopia, and, of course, continued so when he recovered from the ague.

SHEFFIELD GENERAL INFIRMARY.

CASE OF LONG-CONTINUED SYMPATHETIC OPHTHALMIA; RECOVERY OF EXCELLENT SIGHT.

(Under the care of Mr. SNELL.)

SAMUEL G——, aged thirteen, first presented himself among the ophthalmic out-patients in March last. He stated that in May, 1875, a boy threw a piece of earthenware at him, which violently struck his right eye. Vision in this eye was soon lost. About two months after the accident he noticed the sight of the left eye was becoming affected. He was under treatment at different places, but his condition gradually got worse. For some months before applying at the infirmary the sight of the left eye was so far affected that he was unable to find his way about, and needed someone to lead him.

On admission his condition was as follows. Right eye: In the upper ciliary region there is a little scar, towards which the iris had been drawn, totally displacing the pupil. Tension decidedly sub-normal. Left eye: The characteristic appearance of sympathetic irido-cyclitis present; the iris dirty-looking and indistinct; pupil plugged with lymph, aqueous turbid, with lymph at the bottom of anterior chamber. He could see a hand indistinctly when it was passed before him, but could not count fingers.

The removal of the injured globe was advised, and the consent of the parents was obtained, although they stated that it had not previously been suggested to them. Enucleation was performed under chloroform on March 26th.

The good effect was noticed almost immediately. On March 29th the anterior chamber had become somewhat clearer, and he was able to count fingers. He was now ordered to use atropine drops and to take the twenty-fourth of a grain of perchloride of mercury three times daily. The subsequent progress was uninterruptedly good. On April 10th he could read No. 16 of Jaeger's test-types, and on June 26th No. 4. On July 10th, in a good light he was able to read No. 1 Jaeger. The pupil was partially covered by some delicate membrane, but allowed a fair reflex to be obtained with the ophthalmoscope.

Enucleation of the injured eye, when sympathetic irido-cyclitis has been fairly set up in its fellow, is unhappily often found to be of little avail. The satisfactory result obtained in this case of such lengthened duration (twenty-one months) is interesting and worthy of record.

BEQUESTS, &C., TO MEDICAL CHARITIES.—The General Hospital and the Royal Infirmary, Bristol, have jointly become entitled to a large amount, £40,000, or thereabouts, it is supposed, under the will of Mr. Powell, of the Hotwells. Mr. John Miland, of Wimbledon, bequeated £1000 each to the Metropolitan Convalescent Institution, the Royal Free Hospital, and the Charing-cross Hospital; £500 each to the Seaside Convalescent Hospital at Seaford, the Westminster Hospital, King's College Hospital, the Royal Westminster Ophthalmic Hospital, and the Hospital Sunday Fund, all payable after the death of his wife. The Corporation of the City of London have given two hundred guineas to the Westminster Hospital Reparation Fund.

MEDICAL ASPECTS OF THE WAR.

SNOW has already fallen on the Balkans, and in several localities occupied by the opposing armies the lower grounds have become flooded and the roads wellnigh impassable from the early autumnal rains. The Russian forces, notwithstanding the imperfection of their commissariat arrangements, would appear to be suffering less from the difficulties attending transport than the Turks. A military correspondent of *The Times*, writing from Bucharest on Sept. 28th, describes the Russian troops in Bulgaria at that date as well fed, plentifully supplied, and in splendid heart. From the Turkish side accounts are less favourable in these respects, except as to the fighting stomach of the men. A curious report comes from Constantinople of a request having been made by Russia to the Ottoman Government, through Prince Reuss, for permission to pass across the Danube, unopposed, timber for the construction of hospitals for the army in Bulgaria. The Porte is stated to have refused consent to the passage of timber, but to have signified its willingness to allow surgeons to pass. A further proposition that the timber, in order that no doubt should exist as to the use for which it was designed, should be passed over the river under the control of the Turks, was also, it is said, not entertained by the Porte. The Porte, it is added, pointed out that the Geneva Convention could not be invoked in support of the request made through Prince Reuss. It is difficult to believe that any such request was made. Where the ammunition and supplies of a great army can pass with comparative safety, permission is not needed to transport wood to build hospital huts, or to admit of the passage of surgeons.

Major-General Kossinsky, chief inspector of army hospitals, has sent to the *Moscow Gazette* an account of the conduct of the medico-sanitary staff of the army in the Balkans during the actions in the Schipka Pass. He states that the medical and sanitary staff with the advanced troops had to do their work under a fire such as had never been experienced during the most severe fighting before Sebastopol. Numbers of the litter-carriers, and some of the medical men, were shot down, some fatally. Two assistant-surgeons, while engaged in dressing a wounded man on the field, were struck by the same rifle-ball. At the time of writing the list of the killed and wounded of the medico-sanitary staff had not been made out. Notwithstanding the terrible fire, the work of removing and dressing the wounded, General Kossinsky states, was carried out uninterruptedly and with great success. "If," he writes, "I were to name all the medical men who have distinguished themselves, I must, in simple justice, send you the list of all who were engaged at the front." Twenty-three were engaged there, eight first, and afterwards ten at the ambulance in the rear, and ten at the hospital in Gabrova, where Professor Sklyfassovsky, with four assistants, arrived on the 26th August. At the ambulance 2000 wounded were dressed, 15 operations practised, and 70 cases dealt with by plaster apparatus. Among the medical men engaged at the ambulance are named Dr. Kadatsky, surgeon-in-chief of the army; Dr. Vyvodtsew, and Professor Ganovitch-Tchaïnsky. Dr. Anoutchine, principal medical officer of the 9th Division, organised the advanced medical posts, the ambulance, and the hospital at Gabrova. M. Kariakine had supervision of the arrangements for the transfer of the wounded. The chief difficulty which had to be contended with was the insufficiency of the means of transport of the wounded to the hospital at Gabrova, and it was necessary to have recourse to country carts to supplement the ambulance waggons. The removal of wounded to that hospital began on the 22nd of August (the fighting commencing on the 18th), and continued to the 1st Sept. The first day the number of wounded removed was 538, the second 78, the third 853, the fourth 321, the fifth 334, and the sixth 373—total, 2497 wounded, of whom 98 were officers.

General Kossinsky, while doing full justice to the bravery and efficiency of the medical staff on the field of battle, comments very severely upon the imperfection of the service for the transport of the wounded to the hospitals in the rear. The provision of ambulance waggons, he states, has proved wholly incommensurate to the wants of the forces, and, in consequence, it has been necessary to employ largely country carts for the purpose. The use of these carts, particularly when drawn by bullocks, adds immeasurably to the torture of the wounded, and proves most detrimental to their future state. Prince Khilkow writes much in the same strain to the *Moscow Gazette* from the Caucasus of the transport of the wounded there, and his observations lead to the suspicion that the great success of treatment of the wounded in the ambulances of the Caucasus, mentioned in our last impression, may be in part explained from an unusual proportion of lightly wounded among them. It is to be inferred that few of the seriously wounded would survive a several days' journey in country carts among the mountains. Prince Khilkow writes of wounds becoming gangrenous from the impossibility of giving them due care during such journeys. Again, the medical staff of the army on the Danube complain bitterly of their being too often kept in ignorance of the points where it may be necessary to establish hospitals and depôts in view of an engagement. Thus it happens that they are apt to be late upon the spot where their services are most needed, or to be sent away at the last moment.

It would appear, indeed, as if the unexampled preparations made for the aid of the sick and wounded in the early stages of the war, and which, so far as voluntary associations are concerned, are still being continued, have been and are being rendered largely abortive in the immediate field of action from the want of some responsible controlling power and of a faculty of improvising means to meet the exigencies of the campaign as they arise. It reflects no discredit on Russia that her provision for the transport of the wounded should have fallen short of the needs of her recent struggles in the Balkans and the mountains of Armenia, but the letters of General Kossinsky and Prince Khilkow betray an apparent want of fertility of resource in meeting medical exigencies as they arise which we are unable to explain unless on the supposition that, as in the early history of the Crimean war with our troops, individual effort is repressed by an effete bureaucratic rule.

In view of this insufficiency in number of ambulance waggons, the Russian Red Cross Society has ordered 200 to be constructed. A recent return of that Society shows that it has in its hospitals 13,095 beds, together with 2050 beds in ambulances at the seat of war.

We have been favoured by Mrs. E B. Mawer with the following communication from Bucharest, dated Sept. 18th, 1877:—

"I have just seen some one who has come from Turnu Magurele. There are nine impromptu hospitals there. Inhabitants of private houses have stowed themselves in two or three rooms, and placed the rest at the disposal of the wounded. Three good surgeons, aids, nurses, &c., are there. One young officer has been brought here with both legs shot off above the knee. Sunday night two hundred came by train, some in a sad condition, but all bright and uncomplaining. The Princess received them; her tender heart was much touched, and the tears rolled down her cheeks. Over three hundred came in last night, and were received by the Metropolitan. I had an interview with his eminence on Sunday; he is very much impressed by the actual position. Night and morning the bells of nearly all the churches (and these are close on 300) call to prayers for those who are risking their lives. Last Wednesday, prayer and fast day, the body of the St. Demetre was carried round the town, and a procession of priests, incense-bearers, &c. Prince Gortschakoff (who lives at the Russian Diplomatic Agent's) came out into the street to salute the holy relics as they passed his door. A most orderly quiet crowd lined the streets; not a sound was heard; the saint was placed in the principal church, prayers said, then at night the same procession by torchlight up to the Metropole Church, the usual resting-place of the relics. Out of this small army of twenty-five thousand, already three thousand are *hors de combat*. A colonel whom I saw yesterday, arrived from Plevna to buy horses, reports the courage of the men and their health excellent. The people are much impressed, but helpful and helping. The two cottage hospitals near the Summer Palace are full; these are privileged soldiers; every detail is as much like the one at Tottenham as possible, only not so completely carried out. I wish we could have more of them, but all arrangements now must be hurried. We are going to see these poor fellows, taking for

each a packet of cigarettes. Their cigarette is more than food or drink. I hope you at home will help this suffering people, who are sacrificing their lives in blind obedience to a stronger power. One sees in the streets now chiefly small carts with a mattress or bedding and pillows, nurses, aids with the red cross on their arm, &c.; but the most unpleasant sight yesterday was two waggon-loads of coffins! What a change for this laughing, dancing, *sans souci* nation. While the wounded were being collected the other day, the adversary fired on the aids and killed two of them. An officer is expected to-day, the bearer of a flag taken from the adversary, and the cannon which has been captured from the army of Osman Pasha. I fear we shall soon see the reverse of the medal. All that I have written only applies to the army of this country. The Northerners are distinct and apart in every way. They have rented all the principal houses that are to let for the winter."

The later news from Armenia shows even a more deplorable state of things among the sick and wounded of the Turkish army there, if this be possible, than before. The only ray of relief in the gloomy story is the work being done by Mr. Consul Zohrab, Drs. Casson and Featherstonhaugh, and the English correspondents. But this work has to be carried out under incredible difficulties raised by the Turkish military authorities. The question of amputation, to which reference was made by Dr. Casson in one of his letters transmitted to us by Lord Blantyre, has, it would appear from *The Times* correspondent, become a diplomatic matter. The principal Turkish medical officer in Erzeroum refused, it seems, to assent to amputations being performed to save life, on the ground that it was "better that the men should die than that they should become burdens on the Sultan as pensioners." Whereupon Drs. Casson and Featherstonhaugh at once intimated their intention to return to England if their work was to be thus impeded. Ismail Bey, frightened at this threat, then gave consent to the English surgeons exercising their discretion. But the matter being reported to our ambassador at Constantinople, he is indignant with the tone Dr. Casson assumed. *The Times* correspondent supports Dr. Casson, and it is difficult to conceive what other course the latter gentleman could have taken consistent with respect to himself. Here is an example, given by *The Times* correspondent, of surgical procedure in the Turkish medical department:—"While writing the above I have been visited by a doctor in Turkish employ, whom I questioned on the subject of amputations. He informs me that they are not absolutely forbidden by the Government, but that the following procedure is laid down, should a surgeon deem a case worthy of operation:—The doctor in charge of the patient makes a report to the principal medical officer, who himself visits the hospital, examines the man, and, if he considers amputation necessary, lays the whole case before the Military Committee of the district, who decide as to whether the operation shall be performed or not. This doctor informed me that though he has repeatedly during the war applied for permission to amputate, he has invariably been refused by the principal medical officer here; and after conversation with doctors of all nationalities I cannot learn of one single instance in which permission to amputate has been accorded by any of the three principal medical officers either here, at Kars, or at Ardahan." Here is another example, from the same source, of the difficulties thrown in the way of effective relief from our Aid Societies:—"A few days ago a German doctor was ordered to Olti, where there is a force of some 5000 men and no medical man. This gentleman called on Dr. Casson, and begged from him some stores, as he was being sent without medicines or instruments. Dr. Casson made a selection of three horse-loads of various drugs, instruments, lint, and hospital necessaries. What was his astonishment to learn that Ismail Bey had refused to provide carriage for these things, and had told the German doctor that if he wished to take them he must do so at his own expense."

Typhus is reported to be raging in Kars.

Lord Blantyre has favoured us with the following extracts from letters received by him from Dr. Featherstonhaugh and Mr. Richard B. Macpherson:—

Dr. Featherstonhaugh to Lord Blantyre.

"Erzeroum, September 6th, 1877.

"Last week I could only write you a short note from Yortoom, &c. I found the hospital suffered nothing by my absence, but all my patients seemed glad to see me again, and said they had been watching the door every day for my reappearance. This evening we are to get sixty patients from Muktar's camp. They slept at a village about nine miles away last night, and are coming on now. The authorities sent three doctors yesterday to meet them as they came from Kars, I believe, without anyone to look after their wounds. I was much annoyed yesterday by the removal of our apothecary. The principal medical officer had promised to leave him with us, but now says he must go to Biazid. He had been at our hospital since our arrival, and we had no fault to find with him. I have not heard from Dr. Casson since he left, but expect a letter in a day or two.

"The principal medical officer refused to give Dr. Ffuier horses to bring the stores we gave him to Olti, so they still lie in our room down stairs. The reason he gave for refusing was that they were not needed. Dr. F. managed to bring some bottles of chloroform and morphia in his portmanteau. I yesterday received two dozen bottles of quinine and twenty bottles of catechu, also a box of splints, from Stafford House Committee. They were sent by Mr. Pratt through the Red Crescent Society, and had come from Savory and Moore.

"A convalescent hospital has been established here now, and to-day the names of all the men we had operated on were taken to send to Constantinople to have their pensions fixed. I fear they won't get much, but half a loaf is better than no bread.

"Dr. Guppy and I are both in excellent health. Weather still dry and hot."

Mr. Richard B. Macpherson to Lord Blantyre.

"Constantinople, Sept. 20th, 1877.

"We expected to have left to-day, but some supplies not being ready we are delayed till to-morrow (Friday) morning. Dr. MacKellar, Dr. Pinkerton, and myself are attached to the ambulance of the Red Crescent Society, which is being organised by Baron Mundy. It is to be a very large and complete one, having 250 litter-bearers, and I have no doubt we will be able to do some good work in it. Five Stafford House men, two surgeons and three dressers, complete the staff which starts with the ambulance, and these have had their contracts taken over by the Red Crescent Society. We are on an entirely different footing, signing no contract, it being understood that we, as "Lord Blantyre's Surgeons," give our services gratuitously, with the exception of having our rations (our expenses in Constantinople and any incidental expenses are to be defrayed by ourselves) and means of transport here supplied. I hope this arrangement will meet with your approval. Our destination was at first said to be Plevna, but as that place is now said to be surrounded, we merely travel in that direction, trying to get as near the front as possible, and to whatever region our services may be most required in. We will write again as soon as opportunity offers."

Another letter states that Baron Mundy, of Vienna, has been appointed Inspector General of Hospitals in Turkey, and Mr. Alex. O. MacKellar, of St. Thomas's, Chirurgien en Chef to the large ambulance then about to start for Plevna, and the deputy of Baron Mundy to visit the hospitals *en route* and in his neighbourhood, and to forward reports from time to time as to their sanitary condition.

With respect to the Turks not making use of medical stores placed at their command, Lord Blantyre observes:—"I think this attributable to a very natural feeling in an unenlightened people—namely, 'We are much obliged to these strangers for their sympathy, but the things they send us are of no use to us; we have never seen or used anything of the kind, and do not feel the want of them. We have all we require.' It is a lesson not to send more medical stores than there are educated men to use them. It would have saved money to the societies to have acted upon this from the first, to have proportioned surgeons, stores, &c., complete in themselves, and wasted nothing beyond."

On the 2nd inst. Surgeon-Major McNalty, accompanied by Mr. Paul B. Conolly, Mr. Edward S. Pattison, and Mr. J. Naylor Stephens, left London for Bucharest, at the request of Mr. Loyd, Commissioner of the National Society for Aid to the Sick and Wounded, who requested four surgeons. One thousand blankets will follow with all possible speed.

THE LANCET.

LONDON: SATURDAY, OCTOBER 6, 1877.

PROFESSIONAL education, both in nature and method, is so distinct and separate from general or preliminary education, that many of those who have this week begun the first stage of their medical career may be dismayed by the novelty of their situation and disposed to fear that the difficulties which lie before them may prove insurmountable and the goal for which they have started unattainable. Nor will the fears of those who have not already had experiences of some form of student life be allayed when they realise the difference that exists between the tutorial supervision and the strict discipline of school and the comparative freedom and liberty of a college theatre, and when they come to observe the marked change of manner in which knowledge is now presented to them, as compared with the lesson-learning system of former days. The schoolmaster and his ubiquitous assistants may have at times been deemed irksome and derogatory to the touchy dignity of the budding man, but now that their influence is withdrawn, the student may have occasion to discover that after all they were not unmitigated evils. Besides their utility as daily criteria of diligence and industry, they were always ready sources of enlightenment in all cases of difficulty and doubt, and if at any time the pleasures of the field or play were apt to lure the schoolboy from his books, the fear of the master came opportunely before his eyes, and compelled him to draw grateful solace from his studies. All this is now changed; the old *régime* is gone; henceforth the student must rely upon himself; the responsibilities of accepting or rejecting the proffered means of instruction will rest upon himself alone; and for many months to come he may, unopposed, appoint himself the sole arbiter of his progress and advancement. But only for some months. Sooner or later, in the majority of cases, the time will come when first his legally constituted examiners, and afterwards the public, will be called upon to pronounce their judgment. Although the former must be satisfied first, the decision of the latter will eventually be the more important, and will be as much influenced by the way in which the student begins his professional studies as how he ends them.

The beginning being so important, it may not be unprofitable to throw out a few suggestions which may assist those who have just started upon their journey along the difficult and tortuous road to professional life. Our remarks, necessarily brief and fragmentary, will apply purely to the method of study.

The two great mental requisites for the medical student, and indeed for all students, but especially for him, are Attention, and what has been called Association. The learned Dr. ABERCROMBIE has observed: "The habit of listless inactivity of mind should be carefully guarded against in the young; and the utmost care should be taken to cultivate the habit of directing the mind intensely to whatever comes before it, either in reading or observation." If the student makes a practice of always attending closely and intensely to any subject brought before him, either in lecture, book, or in nature, he will soon be rewarded for his pains by having acquired, not only the inestimable habit of readily perceiving facts and phenomena clearly and fully, but his memory will have become more retentive and more capacious, because the impressions made upon it have been definite and distinct. By "association" the memory can, from a given fact or conception, always recall other facts or conceptions which have been previously contemplated with it, or start a train of thoughts which follow each other in the order in which they were first associated, or by it a train of thoughts which have only an affinity to the conception which first engaged the mind may be suggested. It is scarcely necessary to point out how valuable this faculty is in the pursuit of anatomical and physiological studies. The recollection of the numberless facts in anatomy and physiology would otherwise be an impossible mnemonic feat.

The subjects for study in the first winter session are Anatomy, Physiology, and Chemistry. In each and all alike the beginner will find himself perplexed by innumerable technicalities, and will discover that he must spend a considerable amount of time in forming an acquaintance with the names of those mechanical, natural, and intellectual objects which, for good or for evil, he will some day have to employ. Many days, weeks, and even months perhaps will have to be given to the formation of a vocabulary of scientific and technical terms. Not that he will expedite his progress by poring over the pages of a medical or scientific dictionary, and committing to memory the name and meanings of so many scientific terms. A knowledge of these terms will gradually grow upon him if he pay diligent attention both in body and in mind to the instructions of appointed teachers. Lectures, complemented by some amount of private study, will speedily enable him to comprehend terms which at first seemed only cabalistical. But it will not suffice, as some imagine, for the student to be regular and punctual in his attendance on lectures; it is infinitely more important that he should, while present, rivet eye and ear upon the actions and utterances of his teacher, as he attempts to set forth the complex truths and mysteries of that department of natural science which he has made his own.

Here it may be observed that, notwithstanding the strong favour with which some, perhaps most, teachers regard the practice of note-taking, it may be doubted whether the first-year's student will spend his time profitably in the lecture-room in attempting to commit to writing the words of the lecturer. Systematic note-taking, to be of any utility, is a task by no means easy, and requires much and constant practice, and in attempting it the beginner runs a serious risk of losing much valuable present knowledge. It may even be very fairly contended that in lectures on any of the subjects taught during the first winter session there is very little in which the beginner need take notes. In lectures on Anatomy, for instance, especially during the description of the bones, the student will do better to follow, with bone in hand, the descriptions of his teacher than to endeavour to write to dictation what,

at his best, will prove to be an imperfect and inadequate statement of what he may read in any text-book afterwards. The same may be said of Histology and of Elementary Chemistry. For the tyro who has hitherto acquired most of his knowledge through the sense of sight, there is this further disadvantage in note-taking: the avenue for knowledge is suddenly changed from eye to ear. If the attention be fixed upon a note-book, the student can only spare his hearing, and that not undividedly, for the lecturer, and as a result no clear mental impression is made, and the subject is soon forgotten.

For the rest the student of medicine, which is largely empirical, should never allow an opportunity to pass of interrogating nature, and of determining as far as possible for himself, by observation and experimentation, the real relation of things.

Attention, correct association, accurate observation and experimentation, cannot fail to produce an educated practitioner, and are the best foundations on which to build the hopes of eminence and success.

VIEWED from a politico-social standpoint, the conclusion at which the jury in the Penge case arrived, may appear just, and the sentence pronounced expedient. It is not for us to question the abstract justice of the verdict returned, and in the face of such a verdict no discretion rested with the judge as minister of the law. We have already expressed our belief that the evidence of criminal neglect was overwhelming. It has long been a painful duty devolving on the organs of medical opinion, to protest that the law should be brought to bear against the practice of compassing, by neglect, the death of persons who are unable, by reason of mental or bodily incapacity, to protect their own lives. We have persistently and urgently pleaded that the young, the weak, and the sick, have an especial claim on the humanity of those about them, which it is the solemn duty of society to maintain and enforce. No feeling of sympathy for criminals convicted of neglect can be allowed to stultify the judgment that a righteous punishment of the cruel indifference shown towards the sufferings of the deceased woman, HARRIET STAUNTON, is indispensable to the safety of the subject and the honour of State.

Nevertheless there are, as we pointed out immediately upon the close of the trial, momentous and conclusive reasons why the sentence of death should not be carried into effect. The objection does not arise out of consideration for either of the prisoners. If any are worthy of punishment, all share the guilt. We are not concerned with degrees of culpability. If "murder," in the strictly legal, as distinguished from a constructional sense, was committed, the incubus of that crime rests heavily on the women as on the men. The recommendation to mercy was illogical and evidently the fruit of a sentimental view of the consequences entailed by the verdict with which we can have no sympathy. Our contention is simply and expressly that the conviction is bad in fact, and, therefore, we presume, bad in law. The judge left the case to the jury on the allegation of murder by starvation. We have no hesitation in affirming that the fundamental proposition of this count—namely, that the deceased died of starvation,—is not only unproved, but entirely unsupported by the evidence. The inference drawn by the medical witnesses for the prosecution was obviously not warranted by the post-mortem appearances as described by themselves, and it must be apparent to the profession that the report to which we allude is not of a nature to supply material for a satisfactory judgment. It is remarkable chiefly for the omission to state necessary and, as might have been supposed, self-evident particulars. The independent statement furnished by a correspondent and printed in another column to day does not help to clear up the difficulty. On the contrary, it introduces a fresh element of confusion, by denying the existence of at least one important pathological condition previously described.

The position we are compelled to take in regard to this case is that the ground upon which the prosecution relied has no existence. It must obviously be impossible to prove *murder* by starvation without first showing *death* by starvation. The attempt to affirm the primary proposition has failed. Upon this point we claim a right to form a judgment. With the legal inference we have nothing to do, but it seems reasonable to assume that if the fundamental premise of a charge is negatived, the allegation raised upon it must fail. In a word, medical opinion upon the facts submitted cannot be developed to the extent of defining the disease which caused the death to which neglect may have contributed, but it is clear there was disease, and the life of HARRIET STAUNTON was not, therefore, sacrificed by the want of food alone. This much is apparent from the post-mortem appearances, although we are unable to proceed beyond the conclusion indicated. Our presumption—and it is no more—inclines to the belief that the deceased was a general paralytic. The reasons which suggested this conjecture were given last week, and communications we have since received strengthen the belief. The opinion is, however, unimportant. The plea we urge as a final bar to the execution of the culprits is that they certainly did not compass the death by starvation; and whatever may be the legal interpretation placed by Mr. Justice HAWKINS on the law, he insisted, and the jury returned their verdict, on the assumption that the deceased came to her death by wilful deprivation of food and necessaries. The post-mortem appearances are not consistent with the hypothesis of death from the cause assigned; they afford irresistible evidence of other causes at work, although it is not, owing to the defective manner in which the body was examined, possible to say which of several morbid conditions proved fatal to life.

In another place we publish a communication from Dr. GREENFIELD, the medical witness excluded from the case in consequence of a technical objection raised by the judge, and whose testimony would have supported the view propounded by Dr. PAYNE and Dr. BRISTOWE. It is needless to remind medical readers that Dr. GREENFIELD writes with great authority on the subject in hand. The studious moderation with which his opinions are expressed will be apparent. He does not attempt a final diagnosis, but he demonstrates, we think conclusively, the existence of more than sufficient evidence to dispose of the assumption on which the prosecution relied. The case may have been one

of tubercular meningitis, or, as we have conjectured, general paralysis—tubercular deposits in the course of the disease known as "general paralysis of the insane" are not uncommon. It was not necessary, nor would any scientific witness undertake, to raise a specific theory upon the basis of such a report as that made by the original observers in this, happily, unusual case; the utmost justice required was that the allegation of death by starvation should be opposed by a well-considered and reasonable presumption that death, although perhaps hastened by neglect, was in fact due to disease. The testimony which Dr. GREENFIELD was prepared to give at the trial, and which on public grounds alone he now lays before the profession, would obviously have placed a construction upon the case entirely different from that presented by the medical evidence offered by the prosecution, and incompatible with the inferences drawn from it by the judge in his charge to the jury, and the verdict.

The issue raised is so serious that we venture to think the medical profession should mark its sense of the emergency by a combined expression of opinion. Again, we protest that this view of the situation is not in the least degree suggested by sympathy with the prisoners, or a low estimate of their crime—that of gross neglect. We offer no opinion upon the relative culpability of the convicts under sentence of death. Still less should we desire to extenuate their offence as conscious, if not wilful, participators in the cruel treatment of HARRIET STAUNTON. What we desire to place on record is a strong belief that the indications offered by a dead body imperfectly examined, have been misinterpreted, and an inference drawn which the facts do not warrant, but which, on the contrary, they controvert. The interests of science, not less than justice, call for an assertion which shall make this apparent. We have therefore to ask those members of our profession who share this conviction to send us their names to be affixed to a memorial printed in another column, and which we will undertake to place before the Secretary of State for Home Affairs. The letters of authority to be appended to the memorial should be returned to this office without delay.

THE opening of the winter session at the various medical schools of the metropolis has, as usual, been marked at most of them by the delivery of the customary inaugural addresses. We live in an age of addresses, and there is scarcely a week in the year in which the daily journals are not enriched by addresses delivered at this or that association meeting, before one or another of the learned societies, to mark the opening of some new institution, or to commemorate an era in the history of an old one. It cannot be said, therefore, that the orator upon whom devolves the duty of "addressing" an audience has any trouble in selecting a model for a dissertation. The difficulty which each of our medical orators feels, upon the 1st of October, is due to an *embarras de richesses*, for if he be guided by precedent, he will find that there is scarcely a topic which may not be served up as a fitting theme for the delectation of a mixed audience composed of schoolboys who make their first appearance in the arena of their new studies, of advanced students and young practitioners, and of professors to whom it is almost hopeless to try to say anything which shall have the zest of novelty. In addition to the comparatively small audience which can be reached orally, there is that far greater body of listeners which are addressed through the medium of the daily and the professional press; and since it is wellnigh impossible for the orator of the day to hold equally the attention of each section of his audience, he has first to determine to whom he will mainly address his remarks—to the schoolboy, the student, the profession, the professor, or the public.

Among the addresses delivered on Monday will be found samples of each variety, and it would be difficult to say that in trying to reach any one section of his audience to the exclusion of another an orator has done wrong. It has been said that in speaking to a 1st-of-October audience there are four courses open—

"To preach, to teach, to maunder, or amuse."

And perhaps the most successful orators have been those who have had the art of driving "four in hand" as it were, and who have judiciously, in the course of the allotted hour, gone

"From grave to gay, from lively to severe."

We believe that the first hour of a new session may be most usefully employed in giving to the assembled students some idea of their duties to themselves and others in the ensuing year. The boy who comes to a great medical school for the first time cannot but be benefited by some authoritative direction as to his immediate course of action; and we think it is due to the first-year's student that some responsible person should be deputed to tell him something about medical education in general, and to prove to him that what may appear an objectless subject of study to the medical tyro is really an essential part of the structure which he hopes to rear, and can only be neglected with the certainty of ultimate failure. Every first-year's student ought to be preached to for half an hour or so on the meaning of his studies; and if the orator of the day feels that he is unable or is unwilling to perform this duty, some duly appointed person should do so for him.

If the orator does not address himself to the junior students, we do not blame him, for it may be that he does not feel himself suited for giving that form of advice which is necessary, or it may be that he has something of so much importance to say to the profession or the public that his opportunity must not be neglected. We think, however, that, in all fairness to the juniors, some notice should be given them of the orator's intentions, when the address is to be devoted to some abstruse subject which is necessarily quite beyond the reach of their understanding. However valuable may be the scientific pabulum which the speaker has laboriously prepared, he should be careful not to place before raw boys a first course which they not only cannot digest, but which may disgust them with the coming feast, for which their appetites should be whetted rather than deadened. Those who choose some definite scientific matter for their discourse should also bear in mind that there are great difficulties in following a long scientific argument without some assistance from the eye as well as the ear, and if the address is to be really a lecture, the lecturer should avail himself, as did Professor LISTER, at King's College, of the aid of diagrams or experiment. If we turn to the

individual addresses, we must admit that they have been above, rather than below, the average of such compositions. The rival colleges of the Strand and Gower-street both took the same line, and Professor LISTER and Dr. WILLIAMS have given scientific addresses on purely technical subjects, for which the scientific world will thank them. Those orators who were content merely to perform the bare duties of the day without attempting any high flights of originality, performed their allotted tasks in a graceful manner, and few students who listened to Mr. WAGSTAFFE at St. Thomas's, Mr. PICK at St. George's, or Mr. PAGE at St. Mary's, could fail to derive considerable advantage from the addresses of those gentlemen. Mr. HENSMAN, at the Middlesex Hospital, must be congratulated on having managed to infuse some originality of thought into his well-worn subject, and his comparison of medicine with other learned professions was singularly happy. It is, as was stated, peculiar in making demands, not only upon the intellect, but also upon the senses, which cannot be too highly trained for its successful prosecution; and the warning not to trust too much to artificial aids was as sound as it was necessary. "While we extend the sweep of our knowledge," said Mr. HENSMAN, "by means of the microscope, the ophthalmoscope, and the thermometer, let us watch lest our own organs of perception, best instruments of all, created by an eternal will, and, step by step, evolved through lower forms to perfection, be unequal to the requirements of their higher duties."

THE sources of fat in the body of the higher animals has long been a subject of discussion, and an interesting paper in which the results of a large number of experiments by Messrs. LAWES and GILBERT, well known for their elaborate investigations on the feeding of animals, appears in the just published part of the *Journal of Anatomy*. Before the application of accurate chemical research to questions of this nature, it was generally held that those animals that rapidly acquired fat, such as the herbivora generally, and some kinds of birds, derived the fat that they accumulate in their bodies from the fat contained in their food. It was thought that vegetables alone possessed the power of forming fat, and that animals only stored up those portions of fat which they did not consume in respiration. This doctrine was first called in question by LIEBIG, who maintained that a goose fed on maize accumulated after a short time much more fat on its body than was primarily contained in the grains of the Indian corn it had swallowed, and he attributed much of the fat of the body to the carbo-hydrates of the food. The experiments of MM. DUMAS and PAYEN, who contested LIEBIG's statements, showed that maize contained much more oleaginous substance than was admitted by LIEBIG, and that in point of fact it contained sufficient to account for the deposit of fat in the animal. LIEBIG, with great acumen, replied that although it was true that maize contained more fat than he had given credit for, yet his opponents had omitted to notice that a large proportion of the fat contained in the food was discharged in the excrements. Similar observations with similar discrepancies of opinion were made on cattle. At this juncture MM. MILNE-EDWARDS and DUMAS drew attention to and repeated the experiments of HUBER, showing that bees are capable of forming wax—that is to say, a kind of oleaginous substance—even when fed on pure sugar. This result was soon confirmed and generalised by the experiments of M. BOUSSINGAULT on pigs, and of PERSOZ on geese. From this time the original theory of the immediate passage of fats already formed by vegetables into the animal, and its deposition in a more or less fluid form, was almost entirely discarded, and the production of fat in and by the animal body was very widely admitted. The general impression in England was sufficiently evidenced by the adoption of Mr. BANTING'S system of preventing or reducing large deposits of fat—namely, by reducing the amount of carbo-hydrates taken as food. At a meeting of the Congress of Agricultural Chemists, held in Munich in 1865, Prof. VOIT came forward as the advocate of a new view. From the results of experiments with dogs made in PETTENKOFER'S respiration apparatus, he maintained that fat must have been produced from the transformation of the nitrogenous or albuminous constituents of the food, and further, that these were probably the chief, if not the only, source of the fat, even of herbivora. The more recent experiments of WEISKE and WILDT, though somewhat unsatisfactory from the small number of animals experimented on, as well as for other reasons, tended, on the whole, to support VOIT'S statements. The great interest of this subject, and the importance of obtaining correct views upon it, being perceived by Messrs. LAWES and GILBERT, they undertook a careful review and recalculation of many of the results of their feeding experiments, including those with oxen, with sheep, and with pigs. The results of that inquiry are, briefly, that, so far as the ruminant animals are concerned, owing to the comparatively small amount of increase obtained in them from a given amount of constituents consumed, the quantity of nitrogenous substance passed through the system for the production of a given amount of increase was in most, if not in all, cases so large as, in the absence of proof to the contrary, to admit of the assumption that the whole of the fat formed had its source in transformed nitrogenous matter. At any rate, they satisfied themselves that no absolute proof of the derivation of fat from the carbo-hydrates could be obtained from data of this kind in relation to such animals. So far, therefore, their experiments can be interpreted in a sense favourable to VOIT'S views. In the case of the pig, however, the results were very different. In many of the experiments made on these animals much more fat was produced than could possibly have been derived from the albumen of the food, and hence the carbo-hydrates must have contributed directly to its formation. It would seem probable that the same conclusion holds good in the case of man. The fattening that may take place on a starchy diet, and which is well known to occur in negroes during the sugar season, when they habitually consume a large amount of sugar, are unequivocal proofs that man, like the bee, can manufacture fat from the carbo-hydrates; but it would seem to be equally probable that he can form it from the albuminous compounds when the farinaceous and saccharine elements happen to be deficient in his ordinary diet, whilst a combination of both is certainly best adapted for the supply and maintenance of that moderate amount which should be present in every healthy person.

Annotations.

"Ne quid nimis."

MEDICAL MEMORIAL IN THE PENGE CASE.

THE following is an informal draft of the protest, in the form of a memorial, which we propose to lay before the Home Secretary:—

To the Right Honourable Her Majesty's principal Secretary of State for the Home Department.

We, the undersigned, being members of the medical profession, pray to lay before Her Majesty a strong submission that the medical evidence offered in the case of the Crown *versus* Louis Adolphus Edmund Staunton and others was not of a nature to support the allegation that the deceased person, Harriet Staunton, died of starvation, but, on the contrary, tends to show the existence of disease which contributed to, if it did not wholly cause, her death.

We are of opinion that the post-mortem appearances, as reported by the medical men attending as witnesses in the case, did not afford ground for a trustworthy medical judgment as to the cause of death, or point conclusively to the belief that death was not due to natural causes.

We offer no opinion as to the allegation of neglect; but, in the absence of medical proof that the death of Harriet Staunton was caused by deprivation of food or any other form of murder, we pray the reconsideration of a sentence which inflicts the highest legal penalty.—We, &c.

Letters of authority to be appended to the memorial should be in our hands on or before Monday next.

THE CAUSE OF DEATH OF HARRIET STAUNTON.

IN a very able letter to *The Times* of Thursday, signed "A Physician to Guy's Hospital," a high authority writes: "Now, Sir, I must ask you to believe me when I say that, accepting this as true—i.e., if there were tubercles in the membranes of the brain, as sworn by the doctors,—then it is simply certain that the woman had a fatal disease, perhaps the most insidious and the most sudden and unexpected in its final development of all the diseases in the nosology. ..... I have personally superintended more than 5000 inspections of the dead, and I am ready to aver my belief that the facts sworn to by the doctors at the trial absolutely prove that Harriet Staunton died of tubercular meningitis. And that is not only my opinion."

It would be hard to find any evidence more strongly confirmatory of the views adopted by Drs. Bristowe, Payne, and Greenfield.

THE REGISTRATION OF SICKNESS.

"WHY should the existing worthless system of registering sickness be longer perpetuated?" was the title of a paper read by Dr. Cornelius Fox, the medical officer of health for East, Central, and South Essex, at the recent meeting of the Social Science Association. We are not quite sure that the question does not involve a confusion of terms. It would appear to imply that some defined system exists, which is not the case. Indeed, Dr. Fox himself seems conscious that the term "system," in the sense of the title of his paper, cannot, perhaps, be rightly applied to the records of pauper-sickness and of sickness in hospitals, to which he can alone refer as to our present means of "registration." He thinks that the subject is ripe for an inquiry by a Royal Commission, and we agree with him that it would be best dealt with for practical purposes, by such a commission.

We must, however, take exception to some of his observations on the existing mode of recording pauper sickness. He justly indicated the worthlessness, and often absurdity, of these records; but when he states that "the medical relief lists were never designed to afford any data for statistical purposes, but were simply intended to give guardians of the poor some idea of the relief in medical attendance and nourishment the sick administered to the pauper," we are at issue with him. In practice, no doubt, the medical relief lists have become very generally the mere indices of relief in food and physic, but they are prepared to serve as registers of sickness as well as of relief, and the medical officer undertakes, when appointed, to keep these records. The neglect of this duty is one of the things (we say it advisedly) which places the Poor-law medical officer at disadvantage with the public and with the Central Authority; and to suggest, as Dr. Fox in effect suggests, that it is a duty which requires extra remuneration for its performance, makes the matter worse. The duty is simple, exacts but little from the medical officer, has been deliberately undertaken, and is necessary to the proper performance of his functions. If the Poor-law medical officer take so low a view of medical responsibilities and public duties as Dr. Fox implies, and the profession adopt this view, we must not be surprised that the public and the central Poor-law authority will follow suit. What possible justification can be offered for such entries by registered medical men in the relief-lists as those cited by Dr. Fox in illustration of their worthlessness for registration purposes? For example: "diseases," "short breath," "injury," "pulmonary," "brain irritation," "dirty," "itching," "bad eye," &c. The general question of the registration of diseases would have presented much less difficulty than it now does if, in the particular cases where registration is now called for—namely, the Poor-law medical service and public hospitals,—the records of sickness had been kept with any reasonable degree of accuracy. But in these instances the extreme laxity of the profession has been such as to give rise to a not unreasonable doubt that, even if the duty of recording were specifically remunerated, the results would be little more trustworthy than at present. The public regard the question pretty much, we apprehend, as it has been presented to them by actual facts.

THE ARTISANS' DWELLINGS ACT AND THE HEALTH OF LARGE TOWNS.

DURING the twelve years which have elapsed since the Registrar-General began to publish mortality statistics of an increasing number of the largest English towns, in addition to those of London, the health progress among our densest urban populations has been sufficiently marked to afford a triumphant answer to the random assertions of the failure of sanitation which now and again are publicly made. It remains to be seen whether the undoubted progress made in the past fifteen years will act as a stimulus, by imbuing urban sanitary authorities with a stronger and more uniform belief in the importance of their responsibilities, or whether it will lead to a "rest and be thankful" policy, which inevitably means a retrogressive policy, for there is no such thing as standing still in urban sanitation, especially in that of large and growing towns. The Artisans' Dwellings Act affords the most powerful lever for sanitary progress in large towns, and yet out of London and Birmingham it is very discouraging to note how little has yet been done to adopt its provisions in our largest English towns. It is satisfactory to find that in Sheffield the medical officer of health has just made a carefully-considered report upon the general sanitary condition and the mortality statistics of an area of 127 acres within that borough, the "unhealthiness" of which, within the meaning of the Act of 1875, was the subject of an influentially-signed requisition to the medical officer of health nearly a year ago. There is reason to doubt whether the selection of the area for the proposed improvement scheme was on the whole judicious, as the scheme appears at the same time somewhat

too ambitious and to exclude some parts of the borough which require to be dealt with fully as much as the area named by the requisitionists, who included sixteen local medical practitioners. The facts in Dr. Griffiths' report, however, point conclusively to sanitary defects existing within the area which are, moreover, proved to affect the health of the residents to a marked extent. The population of this area was found by enumeration last year to be 23,261 persons, among whom the death-rate in 1876 was equal to 35·3 per 1000, whereas in the remainder of the borough it did not exceed 23·2; in other words, 152 persons died within this "unhealthy area" to each 100 deaths recorded in other parts of the borough, thus exceeding the proportion of 3 to 2. This waste of life is more easily comprehended with the help of another fact — namely, that within this area no less than 70 per cent. of the houses are of the back-to-back type. It will be with the greatest interest that we shall anticipate and record the action which the Town Council may take upon this report. The health of the borough, taken as a whole, has recently shown marked improvement, which should encourage more energetic action on the part of the Town Council, rather than serve as an excuse for disregarding or delaying action on the report of Dr. Griffiths. The annual death-rate in the borough during the six years 1865–70 was equal to 27·5, whereas it declined to 26 in the following six years (1871–6); this decrease was equal to 5·4 per cent., and the rate of improvement, which was considerably greater during 1875 and 1876, would undoubtedly soon show a far more rapid increase under a more energetic health policy, which would include the adoption of the powers given under the Artisans' Dwellings Act. During the thirteen weeks ending Saturday last the death-rate in the borough did not exceed 17·5 per 1000, against 26·2— the average rate — in the five preceding corresponding quarters. It would be interesting to know what the death-rates during last quarter were respectively within and outside the "unhealthy area" of the borough of Sheffield, dealt with in Dr. Griffiths' report just issued.

THE PROPHYLAXIS OF PHTHISIS.

AT the last meeting of the Paris Academy of Medicine M. Lagneau read a paper, which was referred to the Committee on Hygiene, in which he advocated strongly the enforcement of measures of public hygiene, with a view to diminish the frequency of phthisis. This terrible scourge of the inhabitants of the temperate zone is, he showed, more prevalent in Paris than in Berlin and London, reaching a mortality of 18 per cent., a proportion in which it is exceeded by Brussels and Vienna. He pointed out that whereas formerly the male deaths from phthisis were less than the female, the proportion between the sexes has now become reversed, the male mortality being to the female as 115 to 100. Further, that the mortality was higher by one fourth among the immigrant population (country folk and foreigners) than among the native Parisians. After alluding to the fact that the disease prevails in warm and cold climates, M. Lagneau pointed out that certain regions enjoyed an immunity, such as certain altitudes in the Alps, Pyrenees, Cordilleras, Andes, the Mexican plateau, and certain northern countries, as Iceland, the Hebrides, portions of the north-west of Scotland, and the Faroe Islands. Although the only point in common between these mountain districts and northern countries is the possession of a low temperature, he showed, however, that cold could not be considered as preventive of phthisis, for M. Homann has shown it to prevail at Christiansand, in 62° north latitude, with a mean annual temperature of 4·5° C. (40° F.), and MM. Etzel, Billebon, and Guerault report a certain proportion of deaths from pulmonary consumption in Greenland. In France itself a far larger number claim exemption from military service on account of chest disease in the northern departments, as those of the Nord and Pas du Calais, than in the rest of France; but there is likewise a fair proportion even in the Mediterranean departments, where sufferers are so often sent. M. Lagneau showed also that poverty and insufficient nourishment do not go hand in hand with phthisis, the inhabitants of those districts where the disease prevails being in much better circumstances than many others where phthisis is almost unknown. Pursuing his analysis further, he finds a general consensus of opinion among French authorities as to the favouring effect of sedentary occupations and trades; the department of Morbihan, which furnishes the fewest instances of the disease, being also the least industrial part of the country. He urged therefore the formation of free gymnasia, the encouragement of athletic exercises, formation of choral societies, establishment of public sanatoria for the phthisical, prevention of overcrowding in workshops, and means taken to procure a good supply of air and light in newly-built dwellings, legal restrictions against juvenile labour, the encouragement of physical exercises in the lycées and schools, and the substitution of rural camps in place of barracks, where the young soldier could pass his term of military service.

SANITATION AT SIDMOUTH.

MR. NETTEN RADCLIFFE has recently been engaged in pursuing an official investigation into the sanitary state of Sidmouth, which, as most of our readers know, is a pretty little seaside place on the coast of South Devon, with a population of about 3500 persons. The report of Mr. Radcliffe is before us, and we find it difficult to condense for the information of our readers so much unsavoury material. It appears that the continued prevalence of scarlet fever and diphtheria first instigated the inquiry, 160 cases having occurred during the year up to the 31st of August. The inspector finds, apparently without any difficulty, an imperfect system of sewerage and drainage, a polluted water-supply, no regular plan of excrement disposal, slaughter-houses and pigsties teeming with offal and filth, houses unfit for human habitation, and, as might be expected, the river Sid befouled at its mouth and along its course through the town, or rather along its eastern boundary. It may be said that the evils above mentioned exist, more or less, in all towns. But we read that "a single shallow well with ordinary hand-pump has to serve the needs of 350 persons," that "in another instance horses and pigs are kept in the same enclosure with the slaughter-house, that the offal, stable manure, and pig manure are deposited in a large open receptacle capable of containing several weeks' accumulation," that "the pigsties, as a rule, are placed close to inhabited dwellings," and so on. Sidmouth, of course, has a sanitary authority of the urban variety. It has also a medical officer of health, and an inspector of nuisances. But these officers were evidently appointed with the idea that they were to do as little as possible. No instructions were given them, and no reports were expected from them. The medical officer, aided in a fragmentary way by two or three of his committee, appears to have done what he could to arrest the progress of the epidemic. But as there is no hospital for the isolation of cases of infectious disease, no public means of disinfection, and no mortuary, these efforts, however energetic, necessarily wanted some practical "backing," which they, of course, under the circumstances, could not, and did not, receive. In point of fact, as Mr. Radcliffe's report shows, the rule of the sanitary authority appears to have been in abeyance. We recommend those who think that too much is being made of, so-called,

filth diseases, to read this unsavoury report, the details of which show that local self-government, undirected by the much-abused central authority, is not always a sanitary success.

THE MEDICAL SOCIETIES.

DURING next week the metropolitan medical societies will once more be in full working, and we may take this opportunity of again referring to their labours and their modes of conducting business. That they do good work none will deny; their volumes of Transactions, rich every year in new and valuable facts, evidence this. It is no disparagement to say that they might do better, for, long-established as many of them are, not a year passes without witnessing some improvements in the manner in which subjects are brought forward and discussed, whilst their prosperous condition is matter of gratification for those who desire progress in the cause of medical science. This very prosperity, however, brings with it increase of labour on the part of the officials, which must render their posts anything but sinecures; and, in spite of their efforts, it is not unusual to find as much material provided for one meeting as could respectably furnish three or four separate evenings. The fact is, that with so much to do, and so short a time to do it in, adequate discussion on the subjects brought forward is generally unattainable. Statements are frequently allowed to pass unchallenged from the feeling that so many other subjects have to be brought forward within the allotted time. It is surely not absolutely necessary that a society which meets once a fortnight should be always in the condition that is to be found in many of the sections at an annual association, where papers are invited to be written which are never able to be read, and then come to be published, if published at all, more than twelve months after they are penned. A medical society, with its influential council holding constant meetings, need never surely lapse into such a state if proper control be exercised. The precise manner in which such limitations should be enforced it is not for us to indicate, whether by establishing reference-committees or by giving larger powers to the council, or in any other way, but that it is desirable that some checks should exist is obvious. But it is not always necessary for the number of subjects to be large to get an inadequate discussion thereon. The practice of reading papers *in extenso*—a practice carried out in its entirety only at one Society—is one very fatal to free debate, and more than once we have hinted that the meetings of this body would be more largely attended, and the benefits derived from it more widely felt, if the authors of the papers themselves were invited to give a brief digest of the main issues involved in their communications.

The main object of every such society is discussion. Too often has this been lost sight of, the few comments that fall from a small circle of speakers not being worthy of the name of a debate. It would seem, however, as if this want were being more keenly felt; and (always, we hope, with due regard to economy in time) it is becoming more and more the practice to classify subjects to be brought forward, or even to institute special set debates. Such innovations, however, have entailed new and wider responsibilities upon those whose duty it is to control the discussions. The system may ensure more thorough examination of questions; it may lead to the greater accumulation of facts, and to the enunciation of varieties of opinion; but it requires on the part of the chairman much and difficult labour. It devolves upon him to guide the course of the debate and to keep it within due limits, and this requires a keen appreciation of the facts at issue and the exercise of much discriminating judgment. Nor is this all, for, as we have often pointed out, a discussion loses much of its value as a contribution to knowledge unless its threads be gathered up and woven skilfully into one compact web. Without this, what is it but a collection of opinions upon facts, or of facts without any opinion passed as to their relative value—and nothing more? Facts, of course, as facts, are valuable in themselves; but, isolated and disjointed, they add far less to the sum of knowledge than if they were massed together and properly sifted. Once more, then, we venture to hope that, whenever special subjects are under discussion, it will become customary to have the conclusions gained from the debate summed up with due impartiality from the chair. Thus may we gain results of a really definite character whenever the subject under discussion admits of such a procedure, by no means without a precedent among other societies.

Regarding the probable work at the various Societies during the coming session nothing has yet transpired. We may hope, however, to have presented in the course of the year the reports of the various committees that previous sessions saw appointed. The committee on Croup and Diphtheria of the Royal Medical and Chirurgical Society, that on Pyæmia of the Pathological Society, that on the Arterial Changes in Chronic Bright's Disease, and others, may be expected to be presented wholly, or at least in part. But of new subjects, beyond some of those promised in the inaugural address of the President of the Pathological Society, we are yet in ignorance. We may add that the Obstetrical Society held its first meeting on the 3rd inst.; the Royal Medical and Chirurgical begins on the 9th, the Clinical on the 12th, and the Pathological on the 16th of this month.

THE FLESH, AS FOOD, OF ANIMALS AFFECTED WITH CONTAGIOUS PLEURO-PNEUMONIA.

FEW questions are more perplexing to medical officers of health and others than that of the fitness or unfitness as food of the flesh of animals affected with contagious pleuro-pneumonia. An important contribution to our knowledge of this subject has been made in a report recently presented to the Committee of the Irish Cattle-trade Defence Association by Professors Rawdon Macnamara, M.D., Alexander Macalister, M.D., and J. Emerson Reynolds, M.D. This report is especially directed to an examination of the question whether the flesh of animals affected with contagious pleuro-pneumonia "is unsuited for human consumption, and, therefore, regardless of all consequences, to be rigorously condemned; or, on the other hand, whether its use as an article of human food is perfectly harmless, and that its destruction must be attended with no advantage, but, on the contrary, with considerable loss to the community at large." The report is studiously free from technicalities. It treats simply, in succession, of the history of the disease, its various stages, its mode of propagation, and of its pathology, and then enters upon the vexed question of the effects produced on man and healthy animals by the consumption of the flesh of cattle affected with it. The report closes with an examination of the nutritive value and quality of the meat of pleuro-pneumonic cattle. On the question of the suitability of the flesh as food, the reporters give no uncertain sound. As the results of their own observation and of a tolerably exhaustive study of existing data on the subject, they have come to the following conclusions:—"1. That the consumption of the flesh of cattle slaughtered in early stages of pleuro-pneumonia is perfectly harmless, and the destruction of such meat is a wasteful expenditure of a material which is capable of supplying a perfectly wholesome animal food. 2. That the cases adduced in evidence of the supposed

injurious properties of such meat are of no weight, as those contained in the first statement did not refer to the disease in point, and those in the second are based upon a pure hypothesis which the quoted statistics overthrow." The first statement here referred to relates to a fatal form of anthracoid disease of horses and cattle observed by Dr. Livingstone in Africa, and which he unfortunately designated "peripneumonia"; the second statement to an attempt of the Registrar-General of Scotland, based upon Livingstone's observations, to connect a supposed increase of frequency of deaths from anthrax in man with the introduction of contagious pleuro-pneumonia among cattle. It will be observed that the reporters limit their first conclusion to the flesh of cattle slaughtered in early stages of pleuro-pneumonia—an important limitation; and they further expressly exempt from the conclusion the flesh of animals markedly reduced in condition.

We believe that questions on this subject have been widely circulated among medical officers of health in this country by the Irish Cattle-trade Defence Association. We shall look with great interest for the results of this inquiry. Meanwhile, we direct attention to the important contribution of Professors Macnamara, Macalister, and Emerson Reynolds to the solution of the question.

THE PUBLIC HEALTH IN THE PAST SUMMER.

The last published weekly return of the Registrar-General enables us to summarise the mortality statistics of our principal towns for the thirteen weeks of the quarter ending September. The temperature during the months of July, August, and September was for the most part cold, and the rainfall abundant. These conditions appear to have been eminently favourable to the public health, so far as this may be estimated from the mortality statistics of the period. In the twenty largest English towns, for which weekly mortality returns are officially published, the annual rate of mortality during the three months under notice averaged only 20·6 per 1000, whereas in the corresponding periods of the five preceding years, the death-rate in those towns averaged 23·9, and ranged between 23·1 and 24·4. In these towns, therefore, the mortality during the past summer has been 14 per cent., or one-seventh below the average rate in the five preceding summers—in other words, about 5800 persons living in the twenty towns survived these three summer months who would have been added to the death-roll had the average rate of mortality prevailed. The death-rate in the twenty largest towns is usually about 19 per cent. higher than the rate in the whole of England and Wales, and assuming that the same proportion has prevailed during the past summer, it may be estimated that the annual death-rate in the three months ending September last scarcely exceeded 17 per 1000 throughout England and Wales. If this estimate be approximately correct, the past summer has been by far the healthiest since the memorably cold and wet summer of 1860, when the English death-rate was so low as 17·2 per 1000, and considerably lower than the rate in any quarter of any year since 1837. It may be further calculated that more than 17,000 persons, consisting to a large extent of infants under one year of age, now living in England and Wales owe their present existence to the unseasonably low temperature and to the abundant rains of the summer of 1877. At the end of the present month the Registrar-General's usual quarterly return will afford the means for judging how far the low death-rate of the past summer is due to the meteorological conditions which so directly influence the fatality of summer diarrhœa, and how far to the small epidemic prevalence of other zymotic diseases, the mortality from which is not so directly affected by heat and by the dryness of the air. The diarhœa fatality in London has been lower than in any summer quarter since that of 1860, which was almost unprecedentedly cold and wet.

MEDICAL DEPUTATION TO THE POPE.

Of all the manifestations of fidelity to Pius the Ninth which this year of his episcopal jubilee has witnessed, the most remarkable has been that of the physicians of Italy, who were admitted to his presence on the 25th ult. His Holiness has always had a liking for the society of medical men, and the predecessor of his "secret surgeon," Dr. Ceccarelli, enjoyed more of his confidence, even in matters spiritual and secular, than many of the brethren of the Sacred College. The deputation of the 25th was unique in its kind, and the Pontiff, ill as he was, made special exertions to receive it. Its leader was the Cavaliere Gaetano Tancioni, sometime Professor of Surgical Pathology in the University of the Sapienza at Rome, and, indeed, it was to him that the demonstration owed its origin as a manifesto on the part of the Roman Catholic physicians of Italy against the materialism of the age. An address in this sense was drawn up by the Cavaliere Tancioni himself, and signatures, numbering several hundreds, were attached to it by practitioners throughout the Peninsula. The Pope was visibly gratified by the deputation, and smiled, in bland approval, at that portion of the address which denounced the tendency of modern medicine to ignore the spiritual element in man. When the address itself, and the names attached to it—all contained in a magnificently illuminated album—had been laid at his feet, the Holy Father replied with an energy and heartiness of tone which agreeably surprised his professional audience. He exhorted them to close up their ranks and form a steady phalanx against the positivists, whether in general science or in medicine, and he urged upon them to take account, in their diagnosis and treatment, of those vital and spiritual forces which it was becoming the fashion to reject and even ridicule. He pointed out how efficiently the physician can co-operate with the priest in soothing the agonies of the dying, and preparing the mind for the momentous change on which it is about to launch; then he gave his hearers the apostolic benediction, and sent them on their way, all gratified at their genial reception, and also at the assurance they had received of the visible improvement the Pope had made in health and in physical and mental energy.

FAMINE IN INDIA.

The weather reports from the famine-stricken districts of India still continue favourable. Rain has fallen freely throughout the Madras Presidency, and agricultural operations are in active progress there. In the Bombay Presidency rain has fallen less freely, and more rain is wanted, but the crops are stated to be thriving. In the Central Provinces, however, as also in Scinde and the Punjaub, which had escaped the evils of drought in the past and previous years, rain is scanty and the prospect of the crops is gloomy.

Of 457,722 persons collected in thirteen relief camps in the famine-stricken districts during the week ending the 17th August, 4226 died. Of 574,287 receiving village relief 2135 died. On the 20th September, 241,314 persons were receiving relief on works in the Bombay Presidency, a decrease of 9399 since the previous week; but there was an increase of 11,866 persons receiving charitable relief. The total decrease in the number of persons receiving relief from the 9th June, when the maximum number was returned, to the 20th September, was 153,191. The Madras Presidency returns for the week ending the 22nd September show a total number engaged on relief works of 708,255, a

decrease of 64,839 since the previous week; and 1,633,437 receiving gratuitous relief, an increase of 119,882. In Mysore, at the same period, 53,601 were engaged on the relief works (an increase of 100 on the previous week), and 221,176 were in receipt of charity, a decrease of 5881. The mortality returns for Madras in July show 113,494 deaths in fourteen districts, as compared with an average for the same months, in the same districts, during the previous five years, of 33,442.

THE BRITISH MEDICAL ASSOCIATION AND THE NATIONAL TEMPERANCE LEAGUE.

IT is interesting to notice the various aptitudes of the British Medical Association. It is always at home. It can take either dinner or breakfast. It can see with equal impartiality the virtues of sherry or the beauties of total abstinence. Who has not seen advertised the testimony of "three thousand physicians and surgeons" to the dietetic and medicinal qualities of a popular wine, and which of us does not read with interest, year by year, the proceedings of the breakfast given by the National Temperance League to the members of the Association? This happy sympathy with "both worlds" was never more strikingly illustrated than at the recent meeting at Manchester in the speech of Dr. Milner Fothergill, who, after stating that he was not a total abstainer, "admitted that temperance associations were very much needed." "He confessed, with manly frankness," says the *Medical Temperance Journal*, "that medical men were in many cases blamable for encouraging drinking," and said, "there was a great deal of drinking encouraged, promoted, and—he was afraid he might say—absolutely created, by the medical profession." He protested against the way in which women and even children were urged to take liquor. This is a serious accusation against the profession from so genial an authority as Dr. Fothergill. For ourselves we do not plead guilty. We had thought, or hoped, that the indiscriminate prescription of quantities of alcohol had gone out of fashion. It has, at any rate, no sanction from the heads of the profession, and we hope that when Dr. Fothergill, "with manly frankness," undertakes further confessions of the sins of medical men in encouraging drinking, he will be careful to point out how many of the leading members of the profession, both by prescription and example, discourage drinking.

CERTIFICATION OF CAUSES OF DEATH IN LONDON.

DURING the week ending 29th ult., 1237 deaths were registered in London. In 1147 of these cases the causes of death were certified by registered medical practitioners, and 81 inquests were held; the cause of death was, therefore, certified either by registered practitioners or by coroners in 1228 of the 1237 cases, leaving only 9 cases, equal to but 0·7 per cent. of the deaths registered, in which the cause of death was uncertified. These 9 uncertified cases included 4 in the east, 4 in the south, and 1 in the west groups of districts, and not a single uncertified cause of death was registered either in the north or central groups of districts. Accurate information is not available as to the present proportion of uncertified causes of death in all the other large English towns; in Sheffield, Leeds, Norwich, and Newcastle-upon-Tyne, recent returns give the proportion as ranging between 5 and 8 per cent. It may be instructive to note a few of the particulars relating to the nine deaths in London last week the causes of which were uncertified. In eight of the cases the causes were uncertified because the deceased persons had not had any medical attendance during their last illness, while in the ninth case, that of an infant aged six weeks, the deceased child had been attended by an unregistered practitioner, whose certificate could not be recognised for the death register. Four of the cases were of infants aged less than two weeks, the causes of whose deaths were merely certified by the midwives who officiated at their birth without medical assistance, and in two other cases of infants, aged respectively five hours and eight months, no medical attendance had been provided. One infant, aged nine weeks, died in the out-patients' waiting-room at a hospital, previously to being seen or prescribed for, and the coroner for the district declined to hold an inquest. The ninth uncertified case was of a woman aged 96 years, who appears to have died without receiving any medical attendance during her last illness. It is impossible to doubt that the fact of a person dying without medical attendance affords strong presumptive evidence either that the death was sudden, and thus a fit subject for an inquest, or that the relatives of the deceased were guilty of neglect to provide medical attendance, involving a still stronger reason for holding an inquest. While it is satisfactory to note so considerable a decline in the proportion of uncertified deaths in London, it may be hoped that any future legislation on the subject of coroners and their duties will make satisfactory provision for securing a formal certificate of the cause of every death for entry in the death register.

THE VACANT CHAIRS IN SCOTLAND.

THERE is great suspense as to the important vacancies in the Edinburgh and Glasgow Universities respectively. It does not want a month to the opening of the session, and, as yet, the Professor of Clinical Surgery in Edinburgh and the Professor of Anatomy in Glasgow are not known. The Crown has, doubtless, good reasons for this delay, but they are not apparent to outsiders. It is unpleasant to expectant candidates and their friends, and is disadvantageous to the universities concerned. The delay is especially puzzling in the case of the Edinburgh chair, which has been now vacant for three or four months. It is certainly not to be explained by want of a candidate whose appointment would be hailed with satisfaction by the general judgment of the profession in Edinburgh and out of it—namely Dr. Heron Watson, who, by his standing as an Edinburgh surgeon and a teacher, has a singularly strong claim. It is difficult to understand the wheels within wheels of university elections, especially in Edinburgh; but there has seldom been a more striking consensus of opinion in favour of an appointment than there is in this case. In the case of the Glasgow chair there is scarcely less interest felt. It is a very important one for the welfare of Glasgow as well as of its university. The Professor of Anatomy there should be a power, social and intellectual, as well as merely academic. There is less mystery about the delay in this case, as, practically, the election is likely to lie between two non-resident candidates, Dr. Cleland and Dr. MacAlister, and it must be admitted that the choice between two such candidates is not easy.

THE VALUE OF DRAWING.

MR. HENSMAN, in his eminently practical address to the students at Middlesex Hospital, strongly insisted on the value of drawing as a means of training to hand and eye. It is more; the faculty of measuring the apparent dimensions and relative proportions of objects, plays a prominent part in the attainment of all forms of knowledge. Even an ideal subject is worked out in thought with the aid of mental forms and figures. The lecturer sees heads and subdivisions of his discourse; the lawyer, the topics and connecting link of an argument, in his "mind's eye." No practice is more generally useful to the mind as well as

the body than drawing, and of all forms of this art that of sketching from memory is most exacting and educational. Let the student so examine the "appearances" before him in the dissecting-room, the museum, the pathological laboratory, and the hospital, that he may carry away a mental image of the form and colour, the relative size and the relations of the several parts. Then let him sketch from memory, and, returning to the object, verify his work, correcting its inaccuracies and supplying omissions. The mental results of this system of study will not be less beneficent than the manual. The same principle applies to note-taking. It is better to write *after* observation or hearing than during a demonstration or lecture, and it will greatly facilitate study if the jottings made are as far as possible pictorial and arranged in figure. The hint is a slight one, but if worked out intelligently it will produce good effects.

RECKLESS EXERTION.

THERE are many forms of emulation, more or less respectable, which impel persons to seek notoriety by reckless exertion. We are not prepared to assert that all extraordinary, and apparently excessive, feats of strength or endurance deserve censure. For example, the exploit of swimming across the Channel has given an impetus to a useful and necessary art, and the same observation, in a qualified sense, may be applicable to the doings of pedestrians. There is, however, too often a recklessness about the manner in which these feats are performed which takes them out of the category of laudable efforts. Unfortunately, the instant a deed of especial note is accomplished, somebody tries to outdo the performer, and a number of physically incompetent persons rush into the field as competitors. It is, of course, at their own risk the weak emulate the strong, and, if they fail, or evil consequences ensue, the undue effort not having been made at the call of duty, scant pity can be claimed by their disappointment. Nevertheless, it is desirable to point out that the rage for wild pedestrianism will do serious mischief if not checked. A week ago a man, who walked "160 miles in 48 hours," with "35 minutes to spare," died the day following his achievement. Death is a sensational termination of labours falling under the description of reckless exertion. For every case ending in this way, there are probably a score in which irreparable physical mischief is done to lives, not cut short, but crippled, and ever afterwards burdened with sorrow and suffering. The dead may be few, the maimed are many. By a violent effort of the will, doubtless, the warning cry of nature may be stifled, but the limits of normal energy cannot be far exceeded without injury to the organism—too often beyond amend.

THE TREATMENT OF CONDEMNED MEAT.

DR. SEDGWICK SAUNDERS has just presented to the Sanitary Committee of the City Commissioners of Sewers an elaborate report on various modes of dealing with meat which has been seized as unfit for human food. The quantity so seized in London alone increases constantly, and amounts at the present time to about two hundred tons per annum, thirty-five tons having on one occasion been seized in a single day. Its removal and subsequent treatment often lead to nuisances, and a better system is urgently demanded. Dr. Saunders objects to the carbolic preparations now used for disinfection, overstating his case somewhat in his diatribe against them, and proposes to substitute a mixture of Cooper's salts, sulphate of iron, and picric acid, the persistent bitter taste of the latter rendering it absolutely impossible for the meat to be afterwards sold as food. He appears to have overlooked the fact that the chloride of calcium of the Cooper's salts would, with the sulphate of iron, yield plaster-of-Paris, which would be quite worthless for disinfection, a somewhat curious oversight for a public analyst. The mixture would, however, still possess great antiseptic power.

The condemned meat shed at Smithfield is to be fitted with a slate tank to contain the disinfecting fluid. On its arrival the meat is to be immersed in this tank until all its noxious properties are destroyed, and then sent away in covered tank-like carts to the place of its destination. With regard to its ultimate disposal, Dr. Saunders offers several alternatives. The first is to invite tenders from persons willing, under proper regulations, to undertake its utilisation. This course is so simple that we feel sure it will be preferred to all others. The second is to keep it in suitable barges in tanks containing the disinfecting solution, and either to sell it at the river-side or take it beyond tidal influence and throw it into the sea. The last plan appears in every sense undesirable. The third suggestion is that the City authorities should themselves undertake the task either of destroying or utilising the refuse meat. Dr. Saunders discusses at some length the various modes by which this destruction or utilisation could be accomplished, but as we think it unlikely that the authorities will attempt it, and undesirable that they should, we do not describe them.

Dr. Saunders is to be commended for the zeal he has shown in dealing with this important sanitary question. We trust he will be successful in carrying out the reform he advocates.

SANITARY WORK AT CAMBORNE.

THE town of Camborne, which is in the centre of the Mid-Cornwall mining district, has been visited by Mr. S. Smith, C.E., the Government Inspector, with regard to the borrowing of money for carrying out a drainage-scheme. Mr. Bassett, a large local landowner, is willing to exonerate his tenants from drainage-rates, if the rest of the town be also drained, but there would seem to be many opponents of this very reasonable condition among the inhabitants. Mr. Smith was therefore compelled to point out most clearly and persistently that the Loan Commissioners would only lend money for a complete, and not for a partial system. In consequence of his firmness the Sanitary Committee and their inspector consulted Mr. Bickle, who has most efficiently drained a neighbouring town and port, and we may now hope that a district in which zymotic diseases have always been very rife, will be as free from them as some of the adjacent towns. The Local Board will also build a new hospital for the reception of infectious diseases. The supply of a drinking water sufficient in quantity and pure in quality is a difficult problem at Camborne, but must soon be attacked. As it is, we are glad to chronicle the first attempts at sanitation in any district where this has been so much neglected as amongst the mining population of Cornwall and Devon, and could wish that other similar districts were favoured with residents holding such wise and enlightened ideas as Mr. Bassett and those who supported his views at the public meeting.

RELATION BETWEEN URINARY SECRETION AND IRRITATION OF SPERMATIC PLEXUSES.

M. NEPVEU read a paper at the Havre meeting of the French Association for the Advancement of Sciences, in which he gave the results of his continued researches on the variations which the urinary secretion may undergo as a consequence of various traumatisms. He has arrived at the conclusion that the testis may, in certain abnormal conditions (such, for example, as follow injections of iodine into the tunica vaginalis, and in neuroses of the testis), be the starting point of reflex actions affecting the urinary secretion. This reflex action, looked at especially as a result of injections of iodine into the tunica vaginalis for

hydrocele, is exhibited by a series of oscillations in the secretion, the first effect being oliguria or deficient secretion, which lasts for some days, and is followed by polyuria, succeeded by a return to the normal condition. This result of the injection of iodised solutions into the tunica vaginalis may be regarded, M. Nepveu thinks, as an experiment which establishes the reality of a physiological connexion between the renal secretion and irritation affecting the spermatic plexuses.

DAY-NURSERIES IN PLYMOUTH.

PLYMOUTH, or rather the Three Towns, must be congratulated on the success of the créches which have been provided in Stonehouse, Devonport, and Plymouth proper. These institutions have been established as near as possible to the homes of the poor women who are obliged to go out to earn their living, and have, consequently, been the more appreciated. Besides the care taken of the children by the resident nurses, they are visited by one lady member of the committee every morning and evening, and thus excellent supervision is secured. We would warn the managers to take especial precautions against overcrowding and the admission of cases that present any indications of having been exposed to contagion, and would suggest that a small room should always be kept for the isolation of any infant that shows any suspicious symptom after it has been taken in. An infant nursery should have plenty of fresh air, and a branch establishment, if the funds permit, or a firm refusal to take in more children in case of an increasing demand for accommodation is a *sine quâ non* if a permanent success is hoped for. We are pleased to see that some part at least of the current expenses is met by the admission fees of the children.

THE DEATH OF MDLLE. TITIENS.

THE death of Mdlle. Titiens is an event which, although not unexpected during, at least, the latter stages of her long and painful illness, must needs occasion disappointment and deep regret. As a singer in her own line, this artiste enjoyed a reputation of the widest and highest distinction. Her place can scarcely be supplied. The mournful interest which attaches to her decease from a medical point of view cannot be satisfied until we have trustworthy particulars of its immediate cause.

AT a meeting of the Council of the Poor-law Medical Officers Association, held at their rooms, 3, Bolt-court, Fleet-street, on Tuesday, the 2nd instant, *inter alia* the following resolution was submitted and unanimously adopted:—"That this Council begs to express its gratification on learning that the medical officers of the Cardiff Union have memorialised the Board of Guardians, protesting against the conduct of certain members of that Board in abusing their office as guardians, by reflecting on the medical officers generally, and on M. Milward, district medical officer, especially, in such way as to injuriously affect their and his professional character, and urgently commends their action to the consideration of Poor-law medical officers generally."

CASES of scarlet and typhoid fever have been reported to the Rural Sanitary Authority at Okehampton from the parishes of Chagford, North Tawton, and Drewsteignton. Chagford is much frequented by strangers during the summer on account of its bracing climate and its convenience as a centre for excursions and tours into the most picturesque parts of Dartmoor, and we would suggest that some inquiries should be made into both the water-supply and the drainage. Although so favourably situated for a pure water-supply, we are told that much of the drinking-water is pumped from deep wells, and is consequently very liable to contamination. It would be an occasion of much regret if, for the want of a few sanitary precautions, a place with such exceptional advantages for those who require a bracing and invigorating climate should decline in favour with the profession and the public.

IN London 1237 deaths were registered last week. This number represented a mortality rate of 18·3 per 1000, being a slight increase on the previous week. To the seven principal zymotic diseases 174 deaths were referred—13 to small-pox, 16 to measles, 49 to scarlet fever, 4 to diphtheria, 18 to whooping-cough, 22 to different forms of fever, and 52 to diarrhœa. Six deaths were attributed to puerperal fever, and 52 to different forms of violence. The births numbered 2410, being 96 above the average.

WE must congratulate the Mayor of Penzance on his resignation of the medical officership of health for that borough and port. Such a position without a salary should not be occupied by any member of our profession. The Town Council has unanimously elected Mr. G. B. Millett to the vacant office at a salary of £50 per annum. The appointment is made for twelve months.

WHOOPING-COUGH appears to be prevalent and fatal just now in Liverpool. In the last weekly report of Dr. Taylor, the deputy medical officer of health, 21 deaths are attributed to this disease, being 14 above the average number, whilst the rate of mortality of the other principal zymotic diseases was in every case below the average.

THE Liebig memorial subscription list is now closed. As is pretty well known, it is proposed to erect one statue of the renowned chemist at Munich, and another at Giessen. For the former £5750 has been subscribed; for the latter £1200.

MEDICAL SCHOOL FESTIVALS.

MIDDLESEX HOSPITAL.

AFTER the delivery of the introductory address by Mr. Hensman on the 1st inst., the distribution of prizes to the successful students of the past session took place, A. H. Ross, Esq., chairman of the weekly board of the hospital, presiding. The Broderip Scholarships, tenable for two years, were awarded respectively to E. A. Fardon and T. F. Pearse; the John Murray scholarship and gold medal to F. Bellaby; the Governors' prize awarded for general proficiency to Leonard Hine, and the clinical prize to R. M. Webster. The annual report presented by the Dean of the College, Mr. A. Clark, showed that there were last session 123 students on the roll, as compared with 102 the previous session, and 57 five years ago, and the satisfactory position of the school was considered matter of congratulation by the authorities.

In the evening the annual dinner of past and present students was held at the Grosvenor Gallery, and was very numerously attended. The chair was taken by Mr. T. W. Nunn, senior surgeon to the hospital, who was supported by Mr. Ross, Colonel Hozier, Captain Bedford Pym, M.P., Prof. Flower, and all the members of the hospital staff and lecturers. Mr. Ross responded to the toast of the "Middlesex Hospital," and Dr. Greenhow to that of the "Medical College," the "Past and Present Students" being responded to by Mr. Oscar Clayton and Mr. Fardon respectively. The health of the Chairman was proposed by Mr. Thomas Taylor in a well-chosen speech, and was received with much enthusiasm. The proceedings, which throughout were of the most cordial character, were pleasantly varied by the admirable musical efforts of Herr Ganz, Dr. F. T. Roberts, Dr. Lavies, Mr. Wolferston, and Mr. Anderson Critchett.

We may mention that the hospital is at present undergoing important improvements, extensive building operations being in progress in Cleveland-street, by which considerable

additions will be made to the Home for Nursing, and some fresh wards for special cases will be added to the hospital. A hydraulic lift is also to be constructed.

ST. THOMAS'S HOSPITAL.

The annual dinner of the old students of St. Thomas's Hospital was held on the evening of October 1st at the Pall-mall Restaurant, Dr. Bristowe in the chair. About one hundred of the old students and present staff of the hospital were present, and the gathering was in every sense a successful one. Amongst those present were Dr. Risdon Bennett, Mr. Simon, Dr. Barker, Dr. Lockhart Clarke, Dr. Alfred Carpenter, &c. In reply to the toast of the Army, Navy, and Reserve Forces, Mr. T. Ward Jeston, the "oldest student" present, and a retired army surgeon, returned thanks. In the course of a speech of much interest he stated that he joined the army of the Duke of Wellington in Spain in 1812, and served through the whole of the Peninsular War, having been present at nearly all the more important battles—Burgos, Valladolid, Vittoria, Pampeluna, and others,—of which he gave some details. Dr. Rhys Williams replied for the Volunteers, and read a telegram from Mr. MacKellar conveying the good wishes of the old students now in Turkey. The musical entertainment was chiefly classical, and amongst the performers were Mr. Varness, Mr. Lazarus, and Mr. Hutchings.

WESTMINSTER HOSPITAL SCHOOL.

The lecturers and friends of this school gathered at the Café Royal, Regent-street, over a very good dinner, after the introductory lecture on Monday. They numbered about fifty, Dr. Fincham occupying the chair. Sir Rutherford Alcock, in returning thanks on behalf of the Committee of the Hospital, said that the twelve or fourteen thousand which were now being spent over the improvements of the hospital would make it all that could be desired in a sanitary respect and as a hospital. He further expressed the anxiety of the committee to do everything that was reasonable to promote the interests of the school attached to the hospital. Mr. Heath and Dr. Glover returned thanks on behalf of the Visitors. Mr. Heath spoke with satisfaction of his former connexion with the school, and Dr. Glover referred to the creditable appearance of Westminster students in recent examinations at the College and in the London University.

Correspondence.

"Audi alteram partem."

THE POST-MORTEM ON HARRIET STAUNTON.

To the Editor of The Lancet.

Sir,—The remarks made upon the medical evidence on the post-mortem examination of the late Harriet Staunton in your leader of this day are rather puzzling; as, on the one hand, it is said that every appliance should be used for arriving at determinate conclusions, and, upon the other, it is assumed that "experts" are supposed to be able to design a cause of death from data imperfect or otherwise, and to give evidence (so-called) upon the state of a dead body which they have never seen.

As to the former I must assert that the post-mortem was made with every care and appliance which experience and skill could suggest for arriving at a just conclusion, and the learned judge in his summing up very quickly disposed of the matter.

But although the notes of the post-mortem, as they appear in The Lancet, may be in a great measure correct, I cannot quite endorse the whole of them. I was present at the post-mortem, and, in common with others, took notes, and these original notes, with a transcript written upon the following day, and in the same book, were handed, at their demand, to the legal advisers of the prisoners at their examination before the magistrates at Bromley, but they were not asked for at the trial at the Central Criminal Court.

To give a short summary:—The body was emaciated and very dirty; lice, and eggs of lice and bugs, were in the hair; skin like parchment was drawn tight over the face; no appearance of mammæ; abdomen shrunken. The brain and membranes were healthy with the exception of a small recent patch of tubercular deposit upon the arachnoid membrane on the upper part of the left hemisphere, about the size of a fourpenny piece. There was a fulness of the vessels post mortem. There was no trace of meningitis, no adhesion, and no effusion, and the base of the brain was perfectly healthy. The heart was diminished in weight and empty, but healthy. The lungs were healthy with the exception of about an inch and a half at the upper part of the left lung, which was the seat of inactive tubercular deposit. There was no disease or inflammation of the peritoneum. The omentum was scarcely visible. The stomach had some undigested food in it, consisting of milk and chopped or chewed egg, which was distinctly visible through the thinned coats of the stomach. There was a patch of inflammation upon the interior of the stomach, lesser curvature. The intestines were collapsed, shrivelled, and completely empty, not a vestige of food or the *débris* of food being found in them. The rectum was inflamed. There was a total absence of fat in any part of the body. All the organs were considerably below the normal weight.

My conclusions were (and these were written down and handed to the coroner after the inquest), "that the body did not show any disease sufficient to cause death, but that it exhibited neglect both as to ordinary attention to cleanliness and proper nutriment, that this neglect had produced commencing tubercular disease in the lung and brain. The immediate cause of death was probably shock caused by being removed from home in an exhausted state."

Whether the poor lady was hysterical or imbecile, and whether she might have contributed to her own death by her own neglect and refusal to take food, it is impossible to say.

I am, Sir, yours, &c.,

Sydenham, 28th September, 1877. F. Eachus Wilkinson.

*** If any proof were needed of the inadequate character of the reports furnished of the post-mortem examination by those who made it, that would be supplied by the remarkable manner in which the several impressions received by observers differ. For example, our present correspondent denies the existence of "adhesion" between the membranes of the brain. That particular pathological condition was specified in Court, and it is carefully described in the official report we published last week.—Ed. L.

To the Editor of The Lancet.

Sir,—I venture to offer a few remarks on the medical aspect of the Penge mystery.

The theory put forward in your leading article, that the case of Harriet Staunton was one of general paralysis, is extremely original, and worthy of all praise to its promoter. But I wish to point out that, besides the three symptoms—irregularity of pupils, peculiarity of spelling, and violent excitement—noticed in your leader, there were two other symptoms indicating the same conclusion. These were the love of dress, as testified by Mrs. Butterfield, and the adhesion of the membranes found on post-mortem examination.

Delusions of grandeur, whether expressed in word or deed, are sufficiently well-known marks of general paralysis, but the adhesions found in the dura mater and arachnoid are even more characteristic.

In ten cases (published by me in the first volume of the West Riding Asylum Reports) of cysts of the arachnoid cavity, three were of general paralysis, two of imbecility, and the remaining five of organic dementia; and as regards the two imbeciles, in both cases, as in Harriet Staunton's, the arachnoid cysts were combined with tubercle in other organs. We have, therefore, not less than five symptoms corroborating the theory of general paralysis, suggested by your leading article.

That the case *was* one of general paralysis nobody can say for certain, on the scanty history of the case afforded by the

daily papers, but it is quite allowable to remark that it is extremely likely to have been one of that disease from the symptoms exhibited during life, and also from some of the post-mortem appearances.

I am, Sir, yours faithfully,

Richmond-terrace, Whitehall. H. SUTHERLAND, M.D.

IDIOPATHIC TETANUS TREATED BY INHALATION OF CHLOROFORM AND COLD AFFUSION; RECOVERY.

To the Editor of THE LANCET.

SIR,—Although traumatic tetanus is decidedly more fatal, yet the milder form is sufficiently so, and therefore so very obnoxious to treatment, that I consider the cases of recovery, when we are convinced we have got the disease in question under our care (which I am pretty confident is not always the case), ought to be recorded.

On the night of June 7th I was asked to see J. F——, a negro, aged twenty-seven. I found him bathed in perspiration, and his friends told me he had just recovered from a fit. On inquiry, I found he had had several. The patient himself would not notice me, and from his attendants I gathered this history: He is a captain on one of the small passage-boats which trade round the island. Is a native of the place, and had up to this time enjoyed good health. Took a little spirit, but seldom or never in excess (I am a little dubious about this, though). Was often, naturally, much exposed to the tropical sun; often got wet, &c.; and for the last few days had been working extra, and had consequently undergone more fatigue and exposure than usual, with the exception of the day in question, when he went to bed in apparently perfect health. His bowels had not been opened that day, but nothing further could be elicited under this head. I had not been five minutes in the place when the man was attacked with convulsions; but I cannot say that I noticed anything of an exceptional character in them; they were ordinary clonic spasms, although very violent. The fit did not last more than a minute or so, when he came round, obviously much exhausted, and with increased diaphoresis throughout the body. The man appeared not to lose consciousness. Now, as convulsions are extremely common in the West Indies, for which one might cite a great number of causes, I did not at the time deem the case different from the ordinary type, which I invariably treat successfully with sinapisms and stimulants. Mustard poultices were accordingly ordered for the lower extremities and back of the neck if the attacks continued, and, as he was getting very weak, half an ounce of good brandy every hour. The following mixture was also given him: four drachms each of bromide of potassium, spirit of chloroform, and spirit of ether, in six ounces of water; one tablespoonful every two hours.

June 8th.—Morning: Has passed a very bad night; spasms not relieved by treatment, but still returning at intervals. Sinapism to be continued, with cold affusion to head.—Evening: Was summoned hurriedly, being told that the man was very much worse. The following were the symptoms I observed now, finding him under an attack when I arrived, which it will be remarked were of a very decided nature, and certainly widely different from those previously noticed by me. The poor fellow was, as it were, fixed to the bed in the sitting posture, so severe was the spasm he could not stir, his eyes were staring and full of tears, nostrils dilated, and the risus sardonicus of true tetanus was marked. Pain was felt over the region of the heart; there was great difficulty in swallowing, with strong craving for fluids; surface of body covered with perspiration; pulse very feeble, 132; respiration 24; impossible to take temperature, although during the spasm it would most probably have been pretty high, on account of his violent movements. This state of matters lasted for a minute or two, when the patient merged into complete opisthotonos. He had also trismus. During the two hours I stayed with him on this visit, the condition termed emprosthotonos was several times well-marked, but I saw no tetanus lateralis. The diagnosis at once arrived at was of course idiopathic tetanus.

Treatment.—I at once put my patient under the influence of chloroform, and under this agent he got perfect relaxation of his muscles and consequent relief, but no sooner was it removed than the spasms recurred with renewed violence. Still I steadily persevered, ordered cold affusion to be constantly applied to the head and along the whole spine. It was impossible for me to have procured ice or should have done so; the rains being luckily on, water, cold for these parts, was to be obtained from the swollen river, otherwise this part of the treatment would, without any doubt, have been useless. Brandy was very freely administered when his mouth could be opened (immediately after taking the chloroform), for no pulsation could be detected either in posterior tibial or radial arteries, and only very feebly in the carotids. This certainly served to rally the patient from the most extreme state of weakness to which he had been reduced, for he was, prior to its administration, moribund. Bearing in mind the uncertainty as to his intestinal secretions, I gave him a pill, containing one grain of elaterium, three grains of extract of aloes, and half a grain of extract of stramonium. The spasms were much less violent when I left him, still there were frequent spasmodic twitchings, and his jaw was firmly locked. I told his friends to continue the treatment throughout the night, excepting the chloroform, for which there seemed no further need at the time—a most fortunate circumstance, for I had exhausted the small supply at the store.

9th.—Morning: Alæ nasi dilated; trismus continues. Bowels moved freely three times; black offensive matter passed. Has had no real fit since I left; only the convulsive twitchings, which have been much less frequent and strong since his bowels have been opened. Surface of the body almost cold. Pulse 108, distinct (though feeble) in all the main vessels; temperature 100°; respiration 24. To continue the bromide of potass mixture prescribed on the 7th inst. One ounce of brandy in beef-soup to be given per rectum every two hours. Cold affusion to head and spine to be applied as before.—Evening: Bowels have operated once more. Trismus disappeared. Can swallow easily. Pulse 72, and much firmer; temperature 99·3°; respiration 22. Spoken to me for the first time; says he feels much better, although "terribly weak." Cannot account for his attack in any way. Recollects all that has passed. Brandy to be discontinued. To take beef-soup by mouth.

10th.—Pulse 72, and firm; temperature 99·1°; respiration 22. Bowels quiet; tongue clean. Passed a good night; all spasm disappeared. To continue bromide of potass mixture.

11th.—Pulse 60, firm; temperature normal; respiration 22. Discontinue all but nourishing food. Did not see him again until the 13th, when I found him up; very weak, certainly, but cheerful, and thankful for his recovery. Ordered five grains of citrate of iron and quinine thrice daily.

I have given the foregoing case in a manner as detailed as I possibly can to show—firstly, how insidiously tetanus may come on—preceded, in fact, for some time by mere convulsions prior to the development of the true tetanic spasm; and, secondly, how short a time the acute symptoms of tetanus may last, and be followed by recovery. With respect to the cause of the attack, it seems to have depended upon an overloaded state of the viscera, coupled with constant exposure to the vicissitudes of temperature. The case points out how very important it is first of all to remove any cause which may be supposed to exist, for improvement took place immediately on the action of the purgative pill given, and after this there was not the slightest aggravation of the symptoms. Had it not been for this, I am sceptical as to whether my treatment would have been of any avail, although there are doubtless many who will attribute good to the chloroform. This drug certainly has a wonderful effect in quieting the spasms, and it must be admitted that there was a very decided interval betwixt my leaving the patient and the action of the purgative, in which interval he took no more of the anæsthetic, and there was no further real attack—merely violent twitchings, so that in the case in question it is quite possible I had much to thank the chloroform for, and, it may be, the cold affusion, which I took care to have most assiduously applied. The large amount of stimulant taken (including the mixture) is worthy of note. The patient needed this to support his fast-failing strength, and good obviously accrued from it. It would, in my opinion, have been utterly useless to have

given minute doses of brandy, for fear of giving too much, which I have often seen done; in fact, the time wasted would in all probability have lost the patient. The temperature, too, must be regarded as very low (although doubtless it was high during the paroxysms, as already stated), for, after repeated experiments upon myself and others, I find that the temperature of the body here in perfect health often obtains considerably above that found in temperate latitudes.

Idiopathic tetanus is a common disease here, several cases having recently occurred in the practice of my colleagues, with, I believe, fatal results. The cause is always difficult to determine. It occurs perhaps oftenest in young children, and in them is very apt, if care be not taken, to be mistaken for sunstroke or convulsions, or, in fact, anything but what it really is, through the symptoms not being sufficiently watched. This remark does not apply to the well-known trismus nascentium, which must be regarded in a very different light, occurring as it does merely in the youngest infants. In such cases it is pretty uniformly fatal, and indeed very speedily so.

I am, Sir, your obedient servant,

JAS. DENHAM BRADBURN,

Grenada. Surgeon to H.M. Government in Grenada, W. Indies.

ANTISEPTIC INHALATION IN PHTHISIS.

To the Editor of THE LANCET.

SIR,—The communication of Dr. Thornley in your last week's issue is a valuable and practical one, and I shall be glad if it helps to enforce professional attention to what is undoubtedly a distinct advantage in the treatment of phthisis. Experience now shows that the inhalation of the vapour of carbolic acid does markedly diminish the secretion of purulent mucus in this disease, and in the same degree relieve the cough and general distress of the patient. At the present moment I have in the Norwich Hospital at least three patients suffering from phthisis in its softening stage, all of whom have been materially benefited by its use. I have also advised the inhalation of carbolic vapour in a great many cases in private practice, and in nearly all some advantage has been obtained. But I have observed that it has been of most benefit in those cases in which the purulent character of the sputum has been most developed, and I have been led to think that the explanation of its influence is not merely that it "temporarily cleanses" or "washes away the decomposing discharges of a foul ulcer," but that its action is another illustration of Lister's antiseptic practice, and that the carbolic vapour is a veritable antiseptic, destroying atmospheric germs which may be living and thriving in the pulmonary mucus, as well as doubtless exercising a deterrent influence upon the rapid development of muco-epithelial particles, themselves also endowed with a power of quasi-independent life. If such germ particles as I suggest are present in the mucus of the vomica, they doubtless increase its irritating quality, and so tease the pulmonary secreting surface into greater and greater activity. It is on this theory that I have tried to explain to myself and others the undoubted efficacy of the carbolic vapour.

Dr. Thornley has used Dr. Siegle's vaporiser. Doubtless any form of inhaler answers the purpose, for the vapour of carbolic acid is singularly harmless; but I have found a very simple arrangement to answer admirably. I have commonly told the patient to take an ordinary narrow-mouthed pint jug (a tapering shaving jug is about the best form), to place in it half a pint of medium hot water, to stir up ten grains of carbolic acid in this, and to inhale the vapour of it for ten minutes; and this I order to be repeated three, four, or five times in twenty-four hours. No objection is made to the frequency of its repetition, but rather from the relief experienced it is gladly so used, often voluntarily, in the middle of the night. Occasionally I have thought the addition of a little conium to be useful, but I have scarcely satisfied myself of the fact. I have also found the vapour thus applied of singular advantage in a case of mechanical bronchitis, which has recently been under my care. In this case also there was much puriform expectoration.

Yours &c.,

Norwich, Oct. 1st, 1877. PETER EADE, M.D., F.R.C.P.

NOTE ON GUNSHOT FRACTURE OF THE SKULL.

To the Editor of THE LANCET.

SIR,—In a riot during the late railroad difficulties a bay-window of plate-glass received several bullet holes. These were supposed to have been produced by conical bullets, somewhat smaller than the regulation minié ball, and fired from a breech-loading rifle. On examining this glass, which was a quarter of an inch in thickness, I noticed that upon one side the holes were perfectly smooth, while upon the other a peculiar bevelling off, with a much greater loss of substance, was encountered. The latter, I thought, must be the side of exit. If this was the case, did it not throw some light upon the greater amount of destruction of the inner table of the skull found in the majority of cases of fracture of the skull, most notably in gunshot fractures?

Acting upon this suspicion I have made some experiments upon dried calvariæ. Firing at a certain distance (a conical ball out of a revolver), I was able to drive the bullet through the skull when struck fairly, but if the least bit to the side of one of the cranial curves the bullet glanced. In these attempts, when the ball passed entirely through, whether the wound of entrance was either upon the inner or outer table, the opening of exit was always splintered widely. If the concavity of the skull was turned towards the pistol the outer table was splintered off to nearly, if not quite, as great an extent as was the inner table when the convexity first received the missile.

This was conclusive to my mind that the greater splintering of the inner table, which we are taught in all works upon surgery (at least in all I have ever seen) depends upon a greater brittleness of that table, is something of a myth. Why this inner table should be more brittle I cannot see, as they both consist of similar compact bony tissue.

My explanation of the fact that we do have a greater loss of substance inside the skull in fracture is this. A bullet, in life, must first impinge upon the outer table; this table is well supported by the cancellous structure beneath, while the inner layer receives little, if any, support from the brain and its coverings, and, just as we find in the plate-glass, a greater loss of substance occurs upon the unsupported side.

These experiments can be verified by anyone.

Very respectfully,

OSCAR J. COSKERY, M.D.,
Prof. Surg. Coll. Phys. and Surgeons.

Baltimore, U.S.A., Sept. 13th, 1877.

MAGGOTS, THE LARVÆ OF THE BLUE-BOTTLE FLY, IN SYPHILITIC ULCERATION OF THE THROAT.

To the Editor of THE LANCET.

SIR,—I forward to you the notes of a case which might possibly prove sufficiently interesting for publication.

Private W. A—— presented himself for admission to Regimental Hospital on the 4th April, 1877. He had suffered from secondary syphilis, and his nose was disfigured and flattened from that disease. The patient complained, on admission, of soreness and feeling of great irritation in the throat, and on looking into his mouth the soft palate had almost ulcerated away, and a large ulcer was visible on the back of the pharynx; this ulcer was one moving mass of maggots. Attempts were at first made to remove these maggots with a syringe and a strong solution of salt and water, but this proving ineffectual they were removed one by one with a bullet forceps, and the part washed with a solution of carbolic acid in water. A strong solution of salt was ordered to be injected through the nose three times a day; the few maggots that were out of sight, and consequently escaped removal with the forceps, were thus got rid of in a few days.

One of the most serious aspects of the case was the terrible mental distress which the patient suffered from on finding the cause of his disease, and at first we were afraid that he would become insane, but he was in a measure quieted by the frequent assurances of Dr. M—— that a

few days would complete his cure. Some of the maggots that were removed alive with the forceps were placed in a bottle, and after a few days developed themselves into bluebottle flies.

I have no doubt that the history of the case was this, that a syphilitic ulcer existed in the patient's throat, and that during sleep a fly gained access through his open mouth, and deposited its eggs on the ulcer.

Yours obediently,

MAURICE KNOX, Surgeon, A.M.D.

Mooltan, Sept. 1st, 1877.

PROVIDENT DISPENSARIES.

To the Editor of THE LANCET.

SIR,—In your editorial annotation on Dr. Monckton's paper, you honour me by observing—"In Birmingham, as our readers know, a very able paper was read by Mr. Sampson Gamgee, in support of provident dispensaries." As that support was very materially qualified, I rely on your proved courtesy for permission to quote a passage from my address on "Our Medical Charities" (p. 26):—"In principle, I believe that the provident dispensary system has in it the elements of the remedy required; very much, if not all, depends upon how it is prepared and used. A too hasty and too wide application of the provident dispensary system in its crude form, or alloyed with the evils which have crept into it, would only lead the public and us into fresh difficulties."

I am, Sir, your obedient servant,

Birmingham, Sept. 29th. SAMPSON GAMGEE.

BIRMINGHAM.

(From our own Correspondent.)

THE Local Government Board have, after holding an inquiry by one of their inspectors, Mr. Thornhill Harrison, C.E., sanctioned a loan of £400,000 to enable the corporation to complete their sewerage works, and to erect public baths, mortuaries, &c.

Dr. Ogle, the medical officer of health for Hertfordshire, in giving a free public lecture on "Food" to the Laws of Health class of the Midland Institute, called attention to the fact that the death-rate of infants in Birmingham was 187 per 1000, while in London it was only 159, and he attributed the high mortality to the use of improper or insufficient food. The numerous deaths from diarrhœa at this season are, no doubt, mainly due to this cause.

Mr. Councillor Lawson Tait has recently pointed out that scarlatina recurs regularly every five years in certain localities of the town, and he rightly urged the importance of making health questions a subject of study by those who aspire to a seat in the Town Council. He says that as in 1874 nearly 800 persons died from zymotic disease, and each life was worth £75, and as 800 deaths probably represented 20,000 cases of sickness, the loss to the borough in one year would not be less than £50,000. He properly adds that it is better, as well as cheaper, to pay extra rates to secure efficient sanitary measures and prevent the evil, than to allow all this suffering and loss to continue.

Your satirical contemporary, the *Hornet*, calls attention to the case of a little child suffering from a severe burn, who was most improperly refused admission to the West Bromwich Hospital, on the ground that it is against the rule of that institution to take in children under seven years of age, and who subsequently died in the Birmingham General Hospital. The refusing admission to such a case, under the circumstances, cannot be too strongly condemned, and it is time that the committee of that institution at once altered so barbarous a rule. The writer in the *Hornet* is, however, rather at sea in his geography, and it may be as well to inform him that West Bromwich is not a part of Birmingham, as he seems to think it is, but an independent borough some miles off, returning its own representative to Parliament, and further to remind him that his sneer about "Brummagem compassion" is singularly ill-timed, as it was at the Birmingham General Hospital that the poor little sufferer was at once promptly received and kindly attended to.

Another case, showing the importance of early attention to accidents and the painful results that ensue from their neglect, has just been made public. A man engaged in making a new line at Waterorton, a village on the Midland Railway, some eight miles from Birmingham, was run over by some waggons, and his right leg crushed. The railway officials, instead of putting him in a special train and at once removing him to one of the Birmingham hospitals, sent him in a heavy cart without springs, by road; and as he was bleeding badly all the way, and three hours elapsed before he reached the General Hospital, he died in a few days. The coroner very properly condemned the conduct of the railway officials as wanting in humanity.

The resignation of Dr. Bell Fletcher of the post of senior physician to the General Hospital has been taken as a fitting opportunity of giving him a testimonial. His portrait is to be hung in the board room, and some appropriate gift is to be offered to Dr. Fletcher as a further mark of the esteem in which he is held. Dr. Russell, Mr. Alfred Baker, and Mr. G. Heaton are appointed honorary secretaries of the testimonial fund, the subscriptions to which are limited to three guineas.

Dr. Fletcher's resignation of the chairmanship of the Birmingham Clinical Board has also been accepted, and Mr. West, senior surgeon of the Queen's Hospital, has been appointed in his place.

Birmingham, Sept. 29th, 1877.

THE BATHS OF AUVERGNE.

(By our Roaming Correspondent.)

ONE of the not unimportant indirect effects of the Franco-Prussian war is the impetus which the anti-German feeling of the French has given to the improvement of French bathing-places. Time was when Carlsbad, Homburg, Wiesbaden, and Kissingen received each their quota of French visitors; but now French invalids prefer to go where international bitterness is not known, and consequently the fortunes of Vichy have revived, the stream towards Aix les Bains has increased, and the baths of the Pyrenees and Auvergne are showing signs of renewed and redoubled popularity.

The baths of Auvergne, which we propose describing in this letter, have certain characteristics which are peculiarly their own, and being, for the most part, situated at a distance from the railway, there is, to some extent, a simplicity and a primitiveness which, though it proves an attraction to many, keeps away the crowd of the merely luxurious, or the merely fashionable, who, while they increase the expense of residence, import ideas of living which often militate against the recovery of the patients who seek relief at natural springs. He who travels to Auvergne leisurely, and avoids the express train, and stops a night or two at some of the less frequented French towns in the Nivernois or Bourbonnais, will be able to see what is the state of hygienic advancement in which the French at present are, and while he cannot but be charmed with the courteous reception which is everywhere accorded to travellers who have the enterprise to leave for a while the main lines of the tourists, he will be surprised to find how far behind the English in the art of wholesome living are the provincial citizens of the *grande nation* which has taught the world so much. If the traveller leaves Paris from the Gare de Lyon in the evening he will not fail to notice the introduction of the electric light, which has here almost replaced gas. It is not unlikely that the year 1877 will constitute an era in the art of illuminating, and that the time is not far distant when we shall have all the luxury of brilliant light without the annoyance of proportionate heat and products of combustion. This is an hygienic advance, and we have to thank a French railway company for this practical demonstration of the service which electricity is capable of rendering us. The towns through which the railway passes are all, more or less, interesting, and the tra-

veller who rests a night at Nemours, Montargis, Gien, Nevers, Moulins, or Clermont Ferrand will find much to interest him, provided, of course, he have some power of observing things which are not absolutely thrust under his nose by Murray and Baedecker. The one branch of hygiene which the French undoubtedly understand better than any other nation is cooking, and he who travels through the provincial towns and puts up at the modest inns which are to be found in them, will find that the superiority in the art of cooking is not limited to Paris, or the great centres of fashion or of commerce. The trade of a cook is an honourable calling in France, and is not relegated to uneducated women as it is with us, and the proprietor of a big hotel will spend his whole days in the kitchen, working himself at his stoves for the benefit of his guests. He brings intelligence and enthusiasm to bear upon his work, and the effects of this are evident in every dish that leaves his hands. One result of this excellence in the culinary art is observable in the figures of the people, for almost all Frenchmen and Frenchwomen who have entered middle life show a tendency to grow fat, and it is noticeable that this fatness is equally spread over the body, and is not mainly limited, as is often the case in England, to the abdomen. This is the result, probably, of succulent and easily digestible food, which does not overtax the powers or the capacity of the digestive organs. In the matter of cooking there is one glaring exception to the general excellence, and that is the bread. Off the main routes in France it seems almost impossible to get really good bread. It is all sour and disagreeable, and the reason for it is not quite clear. Presumably it is made with leaven instead of yeast, but there can be no good reason for continuing such a custom in the present day, when yeast can be dried and sent any distance. Perhaps the people like it sour, and since very few have ever tasted any bread that is not sour, they cannot, perhaps, understand the depraved tastes of those who have. The same thing is observable in Italy to a greater extent than in France, except in the north, which was formerly in the possession of the Austrians, who understand the preparation of bread and all farinaceous foods most thoroughly. The best cook in the world, probably, is a Parisian who has also worked in Vienna, and who unites in himself all the culinary knowledge of the French and Austrians.

With the exception of cooking, hygiene meets with great neglect at the hands of the French, and the contrast between a French and English provincial town is most startling. The smells of the sewers are everywhere fearful, and the important matters of drainage and water-supply are in a most elementary state. Water-closets, even in the best hotels do not exist, for it would be absurd to give the name to the noisome dens which are so called, but which nobody who is not to the manner born could possibly use. As a consequence the streets and lanes of the towns are all fearfully defiled, and abundant illustrations are everywhere observable of Lord Palmerston's definition that "dirt is matter in the wrong place."

Clermont Ferrand, the chief town of the department of the Puy de Dôme, situated some ten hours from Paris by express train, is the point at which visitors to the baths of Auvergne leave the railway. We mention the town in order to warn travellers not to stop in it, for although its situation is picturesque, and many of its buildings are full of interest, its hygienic condition is as antique as itself, and the custom of allowing a stable to occupy the ground floor of an hotel and fill the *salle à manger* with ammonia is not yet obsolete. We noticed that some of the houses had been fitted with sinks outside every window, which were all in communication with a waste-pipe, which empties itself over a gulley. This was evidently a new arrangement, and designed no doubt to stop the habit of throwing slops out of window. This simple fact seems to indicate that sanitary matters occupied the thoughts of some at least of the inhabitants, and it is possible that when the new water-works are completed and the citizens are provided with a plentiful supply of water, Clermont Ferrand may become a clean, a wholesome, and a pleasant town. Auvergne is a mountainous district, a region of extinct volcanoes, which perhaps are not quite so extinct as we imagine, for during the past summer a distinct shock of earthquake was perceptible in the neighbourhood of Vichy. Throughout the whole of this district there are springs of mineral water, and it is not a little remarkable that most of these springs appear to have been known to the Romans, the remains of whose bathing establishments are in many places to be detected. Although the Romans made good use of the water of Auvergne, as they did of mineral waters, and especially of hot springs, wherever they were to be found, these baths seem to have fallen into disuse with the decline of the Roman Empire, and there is said to be no mention of them by any writer between the fifth and the sixteenth century. From the sixteenth century they have been frequented in a moderate degree by invalids—quite as much in fact as their very second-rate accommodation warranted. Of late years the arrangements for the reception and treatment of guests have been much improved, and at present so much energy and capital are being expended in the beautifying of some of these baths that there can be little doubt they will become before long favourite resorts for the fashionable invalid.

Royat is a suburb of Clermont Ferrand, and is reached in half an-hour by carriage or omnibus from the railway-station of that town. It is situated in the picturesque gorge formed by the River Tiretaine, and is about a hundred feet above the level of the neighbouring city. The hotels here are large and excellent, and there are all the accessories of bath-life—a casino, a band, a public garden, romantic walks, and the inevitable stalls for the sale of nicknacks. Apart from the value of the waters, Royat is a pleasant place to stay in, and travellers coming to visit the Puy de Dôme and the mountains of Auvergne habitually stop here instead of in the unsavoury capital of the department.

There are four springs at Royat, of which two, the Eugénie and the Cæsar are best known. Cæsar is mildly alkaline, and is used very much as a table-water. It contains small quantities of the carbonates of soda, potash, lime, and magnesia, with traces of iron and lithia, and enough free carbonic acid to make it palatable. The total solid contents are less than three grms. to the litre. It is useful in all cases where a mildly alkaline water is indicated, but it is not likely to prove a formidable rival to any of the well-known alkaline table-waters which are in the market. The water from the so-called Grande Source Eugénie is somewhat stronger, and contains five grammes and a half of solid contents per litre. This includes 1·3 grms. of bicarbonate of soda, ·435 of bicarbonate of potash, 1 of bicarbonate of lime, ·677 of bicarbonate of magnesia, and 1·728 grms. of chloride of sodium. The water is warm, but we have not been able to find its exact temperature, and it contains free carbonic acid and traces of iron and arsenic. We had almost omitted to mention that which is claimed as the distinctive ingredient of the Royat waters, and which is printed in capitals in all the published analyses. Royat water is known as a lithia water, and is said by M. Truchot to contain ·035 grm. of chloride of lithium in the litre. Now, ·035 grm. per litre is equivalent to something less than the third of a grain to the pint, so that a patient, in order to get what is usually considered as a fair dose of the lithia salt (say five grains) would have to consume some fifteen pints of the Source Eugénie. The way in which certain ingredients at these mineral springs are brought to the front savours very much of that which goes by a very hard name in England. One spring is said to contain "so much iron," another "so much lithia," &c., but when the analyses are inspected the reputation seems to be founded rather upon the dogma of interested persons than on the verdict of a reliable chemist. We are quite ready to admit that very often these natural waters have an action very different from that which would be got from an artificial water with approximately the same composition, but nevertheless we think the time has come when the various European springs should be subjected to an inquiry, and an analysis carried out by an international commission. Then, and then only, shall we be able to place implicit confidence in the facts which are put forward concerning this or that mineral water. The waters of Royat have been spoken of as "mineral lymph," the composition being similar, it is said, to the blood-lymph. This is a catchpenny title, which must prove repellant to thoughtful persons, and which has but little justification in facts. The diseases which do best at Royat are said to be anæmia and chlorosis, diabetes and affections of the liver; and of course one is told, "the great quantity of lithia which is contained in the waters of Royat makes them a sovereign remedy for uric acid gravel and for gout." The situation of Royat is so pleasant, and the

neighbourhood is so full of interest, that it cannot fail to go on increasing in popularity, and its water is of a sufficiently negative composition to make it very unlikely that any harm will accrue to the consumers. The arrangements for bathing are very good. The bath-house is large, and the baths are furnished with douches and all the usual accessories, so that invalids for whom warm bathing is considered necessary will meet here with every convenience.

Mont Dore is a far more important bathing station than Royat, and has been a well-known resort for invalids of a certain class for a century or more. It was much frequented by the Romans and the Gauls, and only a few years since the remains of a very large bath of Roman construction were discovered here, of which many portions are in a state of excellent preservation. Mont Dore is situated in a high mountain valley, some 3000 feet above sea level, and some twenty-five miles to the south-west of Clermont. The journey from Clermont is most interesting, and occupies about five hours. For the first hour the road winds slowly upward out of the Clermont basin through vineyards, past valleys in which the Spanish chesnut grows luxuriantly, and over cultivated farm-land interspersed with orchards. The next two or three hours are occupied in traversing a high table-land, from which rises the northern chain of the extinct volcanoes of Auvergne. The sight of these must strike the beholder with interest and wonder. The round-topped volcanoes, some of them presenting their craters towards the eye, stretch across the plain to the number of thirty or more, looking like a range of large mole-hills, the highest of which, the famous Puy de Dôme, with its observatory on the summit, rises some 2500 feet above the level of the plain, and about 4300 feet above the level of the sea. The plain itself is fairly cultivated and tolerably fertile, except here and there where a lava stream has evidently taken its course, and here the traveller may walk for miles upon cinders which might have been raked from some neighbouring hearth. These volcanoes, which have not, we believe, shown any activity within historic times, are all easy of access, and the summits of all of them may be reached without danger and with very little fatigue. After crossing the plain the road rises again to a spot where two large basaltic rocks, the Roche Tuiliere and the Roche Sanadoire, the former of which has a columnar formation which almost gives it the appearance of some large castle, guard the entrance to the mountain pass, which leads to Mont Dore. On the top of the pass is a small lake, whence the road descends in many a zig-zag, amongst gorgeous foliage, bold overhanging rocks, and babbling rivulets, to the village, which lies in a wide and fertile valley running nearly due north and south.

The waters of Mont Dore are all hot, the temperature of the chief spring, the Source Madeleine, being as high as 110° F. Their composition is not very pronounced, no one ingredient showing any very great predominance. The total solid contents in a litre of the Madeleine amount to only two grammes, of which nearly two-thirds is composed of carbonates of soda and lime and chloride of sodium. There is, besides, a little iron and some sulphate of soda, and last, but by no means least, there is ·00096 grm. of arseniate of soda in the litre, or very much less than one-hundredth of a grain in each pint of the water. On the strength of this the Madeleine is spoken of as an arsenical spring. The arrangements for bathing are somewhat primitive here, and there is an absence of that luxury which is almost essential for the success of a bath. The hotels are numerous, but not really first-rate, the only exception being the Grand Hotel, which stands in a pleasant garden of its own. The bathing begins at an early hour here, and formerly the demand was so much in excess of the means of supply, that invalids were not unfrequently to be found bathing at two in the morning. There are a couple of piscinas in which poor patients are immersed in companies, and which are said to be peculiarly beneficial, because of the facilities they afford for exercising the limbs while the bath is being taken. Great improvements and extensions are being made in the establishment, and we should advise the authorities to pay more attention to the cleanliness of the village in which invalids are expected to reside. Owing to the keenness of the mountain air, bathers are carried in sedan chairs to the baths, and the sight of these sedans being hurried to and fro by their blue-bloused porters gives a distinctive character to the locality. The specialty of Mont Dore is the great use which is made of the vapour of the mineral water; and two huge rooms, called inhalation rooms, have been constructed on purpose for this method of treatment. The patients enter these rooms in light suits of flannel, and remain in them a certain time inhaling the vapour of the water, which is admitted by special steam pipes. To say the least, it is more than doubtful if that which is inhaled is anything more than the vapour of pure water, and few would be inclined to subscribe to the following statement culled from a "Medical Guide to the Waters of Mont Dore": "The less a water is saturated with mineral principles the more easily certain salts—such, for example, as the arsenites and arseniates of soda and potash—are volatilised. This is why the waters of Mont Dore, by their nature, and especially by their feeble mineralisation, are in conditions more favourable than most other waters for giving up to their watery vapour the greater part of the arsenic they contain." This is a theory which, before acceptation, needs much confirmation, as does also the one which attributes the efficacy of these waters to the electricity generated by the activity of the chemical change going on in them. "These waters," says Michel Bertrand, "are in a *dynamic* state, while those of rivers are in a *static* state, their chemical action being extinct." This is ingenious, but we fear it was meant for the public rather than the profession. Mont Dore is especially frequented by invalids suffering from affections of the respiratory tracts; it unites the two advantages of a high situation and facility for the inhalation of steam. Phthisical patients and those afflicted with laryngitis or pharyngitis come here in great numbers, as do also those who are suffering from chronic bronchitis, emphysema, and chronic inflammation of the nasal mucous membranes.

Bourboule is the third Auvergne bath of which we shall treat. It is only some four or five miles from Mont Dore, and is in a continuation of the same valley. The situation of the town is exceedingly picturesque, being sheltered from the north by precipitous basaltic rocks, and commanding a view of a valley in which a large columnar cliff—La Roche Vendeix—forms a grand and massive ornament. The springs at Bourboule have just been let to a limited company, who are proceeding with great energy in the erection of a noble bath-house, and in the improvement of the town. The quiet valley resounds to the noise of the chisel and mallet, and there can be little doubt that in a few years Bourboule will vie with the now fashionable and most luxurious of the European baths. The water is peculiar, and is remarkable for containing a very large quantity of arsenic. The Source Perrière, which is the best known, gives on analysis a solid residue of 5·1 grms. per litre, which is composed of 2·5 grms. of soda, and smaller quantities of potash, lime, and magnesia, in combination with carbonic and hydrochloric acids. The amount of arsenic has been variously stated by different chemists to range between ·007 and ·013 grm. per litre, the latter being equivalent to 21 milligrammes of arsenious acid per litre. This is a very considerable quantity, no doubt, and, if the analysis be correct, one might well expect to get the physiological effects of arsenic from drinking the water. A more remarkable fact about the water is its *bituminous odour*, which very quickly passes off. Bituminous rocks are not uncommon in Auvergne, and, in some situations, liquid bitumen is found. It would appear that the gas at its source of origin must get charged, under great pressure, with some bituminous vapour, which passes off directly the pressure is removed. The water must emanate from some source far beneath the surface of the earth; for its temperature is stated to be 60° C., or 140° F. The water is, no doubt, a most interesting one, and whatever may be its real therapeutic value, it is sure to attract a large crowd of visitors. Doctor Noel Gueneau de Mussy has a high opinion of the efficacy of the Bourboule water in the treatment of pulmonary phthisis, and this opinion is shared by Pidoux and Pietra Santa. They are of course recommended for all diseases in which arsenic has proved useful, and it is not surprising to be told of their efficacy in chronic skin affections, neuroses, diabetes, rheumatism, and intermittent fever.

The new bathing establishment will be one of the finest in the world. It is a most elegant building, built in the form of a double quadrangle. It contains a handsome lobby and promenade ground for wet weather, and the baths,

of which there are a large number, are luxuriously fitted, and many of them are provided with separate dressing-rooms. The decoration is very rich in the Pompeian style, and each quadrangle encloses a picturesque garden. Every form of douche is provided for the bather, and there is no manner of employing water which the visitors to Bourboule cannot command. There is an inhalation room here, like that at Mont Dore, but this is rather overshadowed by the arrangements for the pulverisation of the water and the inhalation of the spray, which are on a very large scale. If the mineral contents of the water are to produce any topical effect on the respiratory passages, it is obvious that pulverisation is a more satisfactory method of administration than vaporisation. From what we have seen of Bourboule, and the energy with which its natural products are being utilised for the public good, we have no hesitation in saying that this secluded village of Auvergne has a very great future.

There are other bathing establishments in Auvergne which have a considerable local reputation, but it is not necessary to detain the readers of THE LANCET with any details of Chateauneuf, Chatel Guyon, or Saint Nectaire.

SANITATION ON THE RHINE.

(From our Special Correspondent.)

WHATEVER good impression, comparatively speaking, might be produced by a flying visit to Cologne, admiration for the German hygiene would not be enhanced by a rapid survey of the university town of Bonn. The presence of a medical school in this renowned seat of learning had led me to anticipate better things. What can be said, however, of a clinical hospital where patients suffering from infectious diseases lie side by side with persons invalided with rheumatism or other equally innocuous complaints? Dr. Bürger, one of the principal professors of medicine at Bonn, was however, compelled to confess this melancholy fact. He attempted to extenuate the circumstance by explaining that there had been great delays in the projected building of a new hospital, in consequence of the variety of opinion manifested as to the system to be followed in the rearing of this new and necessary building. In the meanwhile, an excellent hospital for obstetrical studies and practice is now nearly completed. I should also add that the clinical hospital contains very few patients, so that the introduction of scarlet fever and other equally contagious cases in the ward peopled by ordinary invalids does not often occur; but this is due only to the fact that the town is small, and not overpopulated. To my regret I found nothing creditable here to report. The drainage of the town is abominable; a closet with trap and constant water is a rare luxury, and the stench in the streets and houses is far more appalling than anything experienced at Cologne. A general apathy prevails with regard to sanitary matters. The drains, even at the clinical hospital, are a disgrace to civilisation; there is a notable absence of public conveniences; gutters that are little better than open sewers poison the outskirts of the town; diphtheria prevails to the extent of being described as a small epidemic, and nothing is done to improve matters, because, it is alleged, no one has the money to pay the cost.

From Bonn to Coblentz is an invigorating and beautiful journey if accomplished on the deck of one of the express Rhine steamers. But if travellers indulge too freely at the *table d'hôte* dinners, and recklessly partake of Rhine wines, to which they have not been accustomed, the results may be disagreeable. Prudence and sobriety are never so essential as when dealing with food and wines that are foreign to our ordinary diet; and the beauties of the journey were somewhat impaired, as far as I was concerned, by the spectacle of a lady and a gentleman, both English tourists, who were as ill after sitting at the *table d'hôte* as if they had been crossing from Dover to Calais in rough weather, instead of steaming up the placid waters of the Rhine. Like Bonn, Coblentz was unpleasant in consequence of its bad drainage, which was noticeable even in one of the two first-class hotels of the town. Here there was no constant water supply, and cleanliness was at a discount. The German hotels also are built in a manner calculated to render the inhabitants specially susceptible to the evil influence of bad drainage. The rooms, even in the handsomest hotels, do not possess any fireplace. A stove is placed in the room during the winter with a tin pipe communicating with the wall. This, of course, creates little or no draught. In summer the stove is generally removed, and the hole in the wall, made for the insertion of the pipe, is hermetically closed. Hence the ventilation of the room depends on the doors or the windows. The door generally opens into a passage, and the passage is too often the chief channel through which the strong odours from the drains make their way to the outer air. There remains, therefore, only the window. The atmosphere of the street on which it opens is often tainted, still there is space and wind to neutralise the foul emanations due to inefficient sewers. But unfortunately the window is so constructed that it cannot be safely opened except in very hot weather or by robust travellers. The windows open like doors, and must therefore either admit too much night air, and this on a level with the bed, or, if closed, none at all. There is no means of opening slightly the upper portion of the window, as is so easily practised with our English "guillotine" frames. The great majority of travellers consequently keep both door and window shut during the night, and as there is no chimney to ventilate the room, it is generally close in the morning, however large the apartment may be. The hotel-keepers on the Rhine should certainly be taught a few elementary lessons on the principles of ventilation. A small aperture might easily be contrived at the top of each window, and this would compensate for the eminently hygienic influence of the missing fireplace.

Before quitting Coblentz I may perhaps be allowed gently to hint that public streets are not exactly the places for the keeping of pigs, nor are these unsightly animals suitable playmates for the coming generation. In the open space opposite the school, and by the old bridge that spans the Moselle, I contemplated some thirty huge pigs wallowing in dirt, picking up scraps out of the gutter; while a number of little children were playing with and teazing the animals. Cocks and hens there were also in abundance, luxuriating in heaps of vegetable refuse. Notwithstanding the picturesque aspect of this old city, its thrilling historical interest, and the frowning grandeur of Ehrenbreitstein, I was not sorry when the steamer bore me away down the loveliest portion of the Rhine, to rest once more, this time at Bingen, and, alas! to be once more afflicted by bad odours, and vexed at the sight of so much human neglect, defiling spots where Nature has been so attentive and bountiful in her gifts.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed the examination in the Science and Practice of Medicine and received certificates to practise on Sept. 27th:—

Boreham, Frank Squire, Lowestoft.
Lyddon, Richard, Folkestone.

The following gentlemen also passed the Primary Professional Examination:—

Thos. Furze Clark, King's College; Henry Havelock Sturge and William Whitworth, Guy's Hospital.

At the Preliminary Examination in Arts held at the Hall on Sept. 28th and 29th, 106 candidates presented themselves, of whom 2 retired, 34 were rejected, and the following 70 passed and received certificates of proficiency in General Education:—

FIRST CLASS (in order of merit).—1st: Charles S. Evans. 2nd: R. D. Brinton and S. C. Townsend. 4th: T. W. Bullock. H. Fickling, E. O. Newland, Reginald Rygate, and W. G. Tyrrell. 9th: L. M. Anderson, H. Appleton, Edith Croft, J. Dowson, W. E. Driffield, Arabella M. Kenealy, J. F. Lea, J. Sinclair, and Ernest L. Wright.

SECOND CLASS (in alphabetical order).—F. T. Bennett, T. Christie, J. H. Crouch, G. H. Darwin, D. J. Dixon, J. B. Dorrian, S. Ellis, G. A. C. Fletcher, E. Fraser, J. C. Garman, Mary Anne Handson, J. Hepburn, M. Henry, J. Hern, J. Hick, G. F. Hobson, W. Holdsworth, W. Jeffrey, E. J. Johnson, F. R. Johnston, C. H. Jones, J. W. Jones, R. Lee-Huxley, A. W. Low, J. S. B. McBurney, H. M. Massey, H. R. Mead, J. D. Menzies, J. Miller, A. M. Moore, J. S. Muir, E. M. E. Munns, W. Murch, A. E. Nelham, F. Oldfield, F. H. Pike, G. F. Rhodes, H. E. Richardson, F. S. Rix, J. Royston, Adela H. Rygate, J. R. Rygate, D. J. Sandeman, H. L. Smith, H. Stott, F. M. Swallow, E. C. Thomas, W. R. Tytheridge, S. Whitten, R. H. Wilkinson, W. Wilson, T. C. Winn Richard S. Wright.

GLASGOW SOUTHERN MEDICAL SOCIETY. — The thirty-fourth annual meeting of this Society was held on the 20th September, when the following gentlemen were elected office-bearers for the ensuing years:—President: Eben. Duncan, M.D. Vice President: John Niven, L.F.P.S. Treasurer: E. McMillan, L.R.C.S. Secretary: Thos. F. Gilmour, L.R.C.P. Editorial Secretary: Andrew J. Hall, M.B. Seal Keeper: Robert S. Wallace, L.F.P.S. Court Medical: John Dougall, M.D. (Convener); M. L. Kelly, M.D.; Neil Carmichael, M.D.; James Morton, M.D.; Robert Park, L.F.P.S.

THE SCOTTISH MIDLAND AND WESTERN MEDICAL ASSOCIATION.—The fifth annual meeting of this association will be held in Spalding's Commercial Hotel, Hamilton, on Friday, October 12th, 1877. The chair will be taken at two o'clock P.M., by Walter W. Lennox, M.D., Hamilton, President of the Association. Amongst the business to be brought before the meeting will be the reading and discussion of the report of the committee appointed to promote the formation of a "Scottish Medical Association;" and to receive a communication from John C. Sloan, L.R.C.P., London, on "The Establishment of a Fund for Invalided Medical Men, and the Education of Necessitous Orphan Children of the Profession in Scotland." The annual dinner will take place after the meeting at the same place.

TESTIMONIALS.—Mr. Councillor John Pratt, surgeon (late of the City of Durham, but now of The Chase, Clapham-common), was on Thursday evening, the 27th ult., at a meeting held in the Mayor's Chamber, Durham (presided over by his Worship the Mayor), presented with a cheque for £35 as a token of the esteem in which he was held by the inhabitants of that city. John Coward, Esq., in terms of high eulogy, made the presentation, enlarging on the kindness and amiability of Mr. Pratt both as a gentleman and a town councillor. Mr. Pratt, in a suitable reply, stated that his chief reason for removing to the south was on account of the ill-health of Mrs. Pratt.—Dr. James Arrott, the oldest medical man in Dundee (his first diploma was obtained in 1827, exactly half a century ago), has been publicly presented with his portrait and a purse of sovereigns, in recognition of his high standing as a practitioner, and his valuable services to the community.

Medical Appointments.

BALKWILL, Mr. W. E., has been appointed a Surgeon to the Royal Orthopædic Hospital.

BARTLETT, J., L.R.C.P.Ed., L.F.P.S.G., L.S.A.L., has been appointed Medical Officer of Health for the No. 1 Sub-district of the Wareham and Purbeck Rural Sanitary District, and for the Owermoigne Sub-district of the Weymouth Rural Sanitary District.

BRIGGS, W. P., L.R.C.P.Ed. L.F.P.S.G., has been appointed Medical Officer and Public Vaccinator for the Allonby District of the Wigton Union, Cumberland, vice Tennent, resigned.

CADDY, H., M.R.C.S.E., has been appointed Medical Officer for the Probus District of the Truro Union, vice Hill, whose appointment has expired.

CHALMERS, J. E., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer and Public Vaccinator for the Danby District of the Guisborough Union, Yorkshire, and his salary increased from £35 to £50 per annum, and fees.

DIGGLE, C. F., M.R.C.S.E., L.S.A.L., has been appointed a Resident Assistant Medical Officer to the Workhouse Infirmary, New Bridge-street, Manchester.

DUNCAN, A., M.D., B.Sc., F.R.C.S., has been appointed Pathologist and Medical Tutor to St. Mary's Hospital.

FAUSSET, H. J., M.B., C.M., has been appointed Medical Officer of Health for the Tamworth Urban Sanitary District, vice Brunton, resigned, at £30 per annum.

FITZGERALD, J., L.K.Q.C.P.I., L.R.C.S.I., L.M., has been appointed Medical Officer and Public Vaccinator for the Ipstones District of the Cheadle Union, and Medical Officer to the Ancient Order of Foresters, Cheadle.

FOOT, R. H., M.D., L.R.C.S.I. & L.M., has been appointed Medical Officer and Public Vaccinator for the Wells District of the Walsingham Union, vice Taylor, resigned.

FREER, J. H., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer of Health for the Rugeley Urban Sanitary District, at £10 for one year.

GARDINER, G. G., M.D., M.R.C.S.E., has been appointed Physician to the British Home for Incurables, vice Woodman, deceased.

GIPPS, A. G. P., M.R.C.S.E., has been appointed Assistant House-Surgeon and Dispenser to the Kent and Canterbury Hospital, vice Plumbe, appointed House-Surgeon.

ILLINGWORTH, C. R., M.B., C.M., has been appointed House-Surgeon to the Peterborough Infirmary and Dispensary, vice Wilson, resigned.

KAY, W., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the North Devon Infirmary, Barnstaple, vice Pronger, resigned.

LLOYD, A. E., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Rhuddlan District of St. Asaph Union, vice Wolstenholme, resigned.

MASSEY, D. C., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer, Public Vaccinator, &c., for the Tober urry Dispensary District of the Tobercurry Union, co. Sligo, vice White.

O'GRADY, W. F., L.R.C.S.I., L.A.H.D., has been appointed a Resident Assistant Medical Officer to the Workhouse Infirmary, New Bridge-street, Manchester, vice Needham, resigned.

PORTER, J., M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for the Urban District of Fleetwood, and at the same time appointed Port Sanitary Officer.

RAWSON, W. F., L.R.C.P.Ed., L.R.C.S.Ed., L.S.A.L., has been reappointed Medical Officer of Health for the North Brierley Urban Sanitary District, at £70 for one year.

READ, C., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon to the Royal Orthopædic Hospital.

REEVES, H. A., F.R.C.S.Ed., M.R.C.S.E., has been appointed a Surgeon to the Royal Orthopædic Hospital.

ROBERTS, H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Llanfair District of the St. Asaph Union, vice Davies, resigned.

SCOTCHBURN, A., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Driffield Rural Sanitary District, at £80 per annum.

SMITH, J., M.R.C.S.E., L.M., L.S.A.L., &c., has been appointed one of the Honorary Surgeons to the Royal Surrey County Hospital, Guildford.

WALLACE, W., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Parish of Logie, Clackmannanshire.

WHITE, M., M.D., C.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Elphin Dispensary District of the Strokestown Union, vice Kelly.

Births, Marriages, and Deaths.

BIRTHS.

CARR.—On the 30th ult., at Lee-terrace, Lee, the wife of W. Ward Carr, M.D., of a daughter.

COLEMAN.—On the 30th ult., at Holly Lodge, Streatham, the wife of Alfred Coleman, F.R.C.S.E., of a daughter.

DE LA COUR.—On the 27th ult., at Camden-road, the wife of G. F. De la Cour, M.D., of a son.

DUKE.—On the 30th ult., at Fernside, Sydenham-hill, the wife of Allen A. Duke, M.D., of a son and daughter.

GREENHOW.—On the 1st inst., at Lillesworth, Esher, the wife of Henry M. Greenhow, F.R.C.S.E., Surgeon-Major, Bengal Army, retired, of a daughter.

RAVEN.—On the 28th ult., at Broadstairs, the wife of T. F. Raven, L.R.C.P.L., of a son.

TEMPLE.—On the 13th and 14th August, at Gulmarg, Cashmere, the wife of William Temple, M.B., V.C., Surgeon-Major, Army, of twin sons.

TUCK.—On the 2nd inst., at Seaford, Sussex, the wife of Buckmaster Joseph Tuck, M.R.C.S. &c., of a daughter.

VISE.—On the 17th ult., at Holbeach, the wife of Ambrose B. Vise, M.R.C.S.E., of a son.

MARRIAGES.

CLIFTON—SMITH.—On the 27th ult., at Bloomsbury Chapel, London, by the Rev. J. P. Chown, assisted by the Rev. J. J. Campbell (cousin of the bride), Cyrus A. Clifton, Surgeon, of Market Harborough, to Mary Annie, daughter of the late J. T. Smith, of Northampton.

LITTLE—BROWN.—On the 27th ult., at Kilmacow Church, Kilkenny, John George Little, L.R.C.S.I., to Charlotte Elizabeth, daughter of the late John Brown, Esq.

WINTLE—RUMBLE.—On the 26th ult., at St. Leonard's, Streatham, Henry Wintle, M.B., to Amy, daughter of Frederick Rumble, Esq.

DEATHS.

BARCLAY.—On the 21st ult., at Blue Anchor-road, Francis Barclay, Surgeon, aged 38.

BOW.—On the 29th ult., at Queen's-crescent, Edinburgh, John Campbell Bow, M.D., Deputy Surgeon-General, Bengal Service.

DICKINSON.—On the 29th ult., at Chelsea, William Dickinson, M.R.C.S.E., aged 81.

DONOVAN.—On the 30th ult., at Skibbereen, co. Cork, Daniel Donovan, M.D., aged 60.

ELLISON.—On the 24th ult., at Poplar, Samuel Kitching Ellison, M.R.C.S.E., aged 64.

FENTON.—On the 26th ult., at Upper Duke-street, Liverpool, John Fenton, M.D., aged 60.

FLYNN.—On the 24th August, at Brookdale Lodge, Dominica, Daniel Flynn, Colonial Surgeon, Civil Service.

HADFIELD.—On the 26th ult., at North Shields, James Hadfield, M.R.C.S.E., aged 51.

HEATHCOTE.—On the 27th ult., at Shrewsbury, John Nigel Heathcote, M.R.C.S.E., aged 66.

HETT.—On the 27th ult., at Worksop, Henry Nicholson Hett, M.R.C.S.E., aged 41.

JONES.—On the 21st ult., at Guisseley, Yorkshire, Frederick Denbigh Jones, M.D., aged 57.

KENT.—On the 2nd July, at Bodmin Asylum, Cornwall, Newbigin Kent, Surgeon, late of Beeralston, Tavistock, and eldest son of Samuel Kent, Esq., of Egremont House, Whitley, Northumberland, aged 40.

LITTLE.—On the 26th ult., at Yetholm Manse, Kelso, James Little, M.D., of Maryfield, Annan.

LUPTON.—In September, 1876, at Patani, Singapore, Alfred William Lupton, M.B., aged 32.

MICHELL.—On the 20th ult., at North Richmond-street, Dublin, Humphrey Michell, M.D.

PIM.—On the 21st August, accidentally drowned at Rangoon, William Joseph Pim, M.B.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

Notes, Short Comments, and Answers to Correspondents.

INFANTILE DIARRHŒA.

MR. JOHN SPEAR, medical officer of health for South Shields, whose Reports are always worth attention, gives an account of the health of South Shields in 1876, which will, on the whole, be regarded with satisfaction. The death-rate for 1875 in the borough was the lowest on record, and that for 1876 was lower still. But, for all this, there is reason to fear that the improved health of this important town is more apparent than real. A town may be healthy for a year or two almost by accident, and yet have all the conditions of unhealthiness lying, like a mine of powder, beneath and about it. The unhealthiest town cannot be always having great epidemics. They occur periodically, then culminate, and for a time disappear, leaving, perhaps, all the conditions which permit their prevalence whenever they reappear. Is this the sole significance of the smaller mortality in South Shields for the past two years? We fear it is, and on the following grounds:—A town cannot be permanently healthy in which the first principles of sanitation are ignored, as they have been, and, as we regret to say, they seem to be, even in the construction of the newest streets, if Mr. Spear's account be true. It is bad enough for old houses to be built on masses of town and dock refuse; but for new houses to be so built with only the most antiquated provision for the removal of excreta, or rather with the worst provisions for their storage and retention about houses, is a serious reflection on the sanitary authority of the place. But what says Mr. Spear of subdivision 3 of district 3?—"This is the most densely populated district of the borough, and, although a comparatively new one, it is one of the most unhealthy." This is discouraging indeed, and the evidence that all the conditions of unhealthiness abound in the town, notwithstanding the present generally low mortality, is unfortunately abundant in two facts in Mr. Spear's report: the high rate of mortality from infantile diarrhœa and from tubercular disease. These are the abiding and unfailing tests of the sanitary condition of towns, and, until they can be altered, all the work of the sanitary authority has to be done. The number of deaths in the third quarter from infantile diarrhœa was 75, equivalent to an annual death-rate from it of 5·2 per 1000 higher than the mean rate for the borough itself, and raising Shields to a bad eminence among the fifty other large towns of England, whose annual death-rate from this significant cause was only 3·1 for that year. In Liverpool even, in 1876, the deaths from this cause were nearly 200 less than in the previous year. Despite one of the ablest health officers, then, in the country—despite proximity to the fresh air of the sea, and an unusually pure drinking-water, South Shields is labouring under some constantly injurious influence that, for purposes of health, spoils those advantages that would otherwise make it one of the healthiest towns in England.

Tulpa.—The title is not justified by the qualification named.

INJECTION OF PERCHLORIDE OF IRON IN ABORTION.

To the Editor of THE LANCET.

SIR,—Now that the subject of the use of the perchloride of iron in hæmorrhages, especially in midwifery practice, is engaging the attention of medical men, I think that every case in which it proves successful should be recorded, and I hope that the following may not be entirely out of place.

About eight o'clock in the morning of Aug. 12th I was summoned to see Mrs. C——, who was supposed to have miscarried during the night, and was now, according to the messenger, "losing a great deal." On my arrival at the house I was conducted into a small, ill-lighted room, with no carpet or furniture in it save a bedstead. One side of the floor was completely covered with blood. On the bed (if so I may call it) lay a poor, anæmic, and apparently lifeless woman. I immediately examined the pulse, but could detect no pulsation whatever, although the heart was slowly labouring on. She was not able to speak. I next examined the uterus, and found a small fœtus and its membranes lying in the canal, and blood slowly oozing from the interior of the uterus. As she was unable to swallow anything, it was useless wasting time to try it. I therefore sent home as quickly as possible for a syringe and some strong perchloride of iron, and in the meantime kept my hand firmly pressed upon the outside of the uterus, which for the time stayed the hæmorrhage. When my syringe arrived, I added three ounces of strong solution of perchloride of iron to half a pint of water. Upon removing my hand from the outside of the uterus, the hæmorrhage again commenced. I then introduced a long vaginal tube into the uterus, and slowly injected the styptic. From that moment all further hæmorrhage ceased. Up to this time (about twenty minutes) I noticed no alteration in my patient's condition; but now after the injection she very gradually gained consciousness; the pulse returned at the wrist, and in an hour from that time she was able to speak. As soon as she was able to take it, milk was freely administered, but no brandy or other stimulant given.

Yours truly,

Plaistow, E., Sept. 30th, 1877. ROBT. G. BATELY, L.S.A.

Lactantius.—We are unable at the moment to point to any specific investigations on the subject; but we think there cannot be a doubt that the practice of feeding cows almost exclusively on brewers' grains is highly injurious to the animals, and must consequently affect prejudicially the milk which they supply. If cows were not allowed to be kept in London or other large cities, the temptation to feed them on such unwholesome trash would not be so great.

H. G. will do well to address his questions personally to a practitioner.

SANITARY LAUNDRIES.

ONE Sanitary Laundry Company has been projected. We hope to hear of others. The season is propitious for the enterprise. If establishments providing all needful appliances for the thorough cleansing of house linen and personal clothes can be placed in working order before the season when London is crowded, they may quickly secure remunerative business. It would, of course, be well if the movement could begin in the densely populated districts of the East and Central London. It is in these localities the prevention of disease by infection is most necessary. There is, however, better hope of introducing the thin end of the wedge at the West. If families having large quantities of "washing" to put out find trustworthy institutions at their disposal when they return to town, an improved state of matters may be brought about, and the movement will extend in all directions. Meanwhile it is important to bear in mind that the poor women who live by "taking in washing" should, as far as may be possible, be offered the means of livelihood as employées at the sanitary laundries; and by, so to speak, buying up their perilous trade, a stop may be put to a practice which, under the most favourable circumstances, must always be attended with great social risks.

Avis.—We cannot recommend any particular practitioner.

THE USE OF THE ASPIRATOR IN URETHRAL RUPTURE.

To the Editor of THE LANCET.

SIR,—The following case, for the notes of which I am indebted to Mr. Floyd Collins, house-surgeon to the Christchurch Hospital, may present some interest to your readers as illustrating the conservative use of the aspirator in rupture of the urethra. The treatment laid down in Holmes's System of Surgery is, "that in all cases of injury to the urethra in which there is reason to fear that extravasation of urine may take place an incision should be made along the raphé of the perineum, so as to allow the fluid to escape with the utmost facility." If in such a case we can save the patient from micturating by aspiration, time may be given for the surface of the injury to become consolidated by inflammatory effusion, and a certain amount of repair to take place, thus greatly diminishing the risk of infiltration. This plan was adopted with success in the accompanying case, in which there was reason to apprehend extravasation.

W. S——, labourer, aged twenty-five, of strong constitution, was admitted into the Christchurch Hospital, at 8.30 A.M., on June 17th, 1877, with rupture of the urethra from falling astride the buffer of a railway waggon. Had not had time to empty his bladder completely on turning out of bed, as he was late for the train. Had not made any attempt at passing urine since the accident. There was no external injury. He was suffering much pain, and a large quantity of blood had come away, and was still coming, from the urethra. Cautious attempts, without success, were made to reach the bladder, at first with flexible and afterwards with silver catheters; but they had to be abandoned, as the point of the instrument became entangled in broken-down tissue about the junction of the bulbous and membranous portions. The patient was cautioned against making any attempt to urinate. Cold was applied to the perineum. He was placed on a diet of rice-pudding, and only very small quantities of milk and tea allowed for drink. A grain of opium to be given every four hours. At 11.30 A.M. the bladder was so much distended, and he had such a strong desire to pass water, that the aspirator was used above the pubes, and a pint and three-quarters of clear urine withdrawn. At 6 P.M. the aspirator was again used, and a pint and a half of urine removed.

June 18th.—Has passed a pretty comfortable night. No desire to pass urine; no swelling in perineum; tongue slightly furred; temperature 99·2°. At 6 P.M. the bladder was aspirated, and two pints of urine withdrawn.

19th.—Much the same as yesterday morning.—5.30 P.M.: Slightly depressed. Aspirator used; temperature 102·8°. Ord. red. ten grains of quinine at once, to be followed by four grains every four hours; Liebig's extract of meat and small quantities of coffee.

20th.—4 A.M.: Prolonged rigor, followed by profuse sweating. Fell asleep, but soon awoke to find himself urinating; could not restrain himself until he had passed about a pint of urine. At 9 A.M. about an ounce of blood came away from the urethra. Pulse 108, somewhat full; temperature 101·8°.

21st.—Feels better; pulse 88; temperature 99°; scarcely any pain. Allowed to micturate; full stream; only slight pain.

22nd.—Pulse and temperature as yesterday. Bowels relieved for the first time since admission.

23rd.—Pulse 84; temperature 99°; tongue clean.

24th.—Feels quite well; pulse and temperature normal.

Was discharged on July 1st. Prior to the discharge of this patient I cautiously explored the urethra, but failed to pass an instrument beyond the seat of the injury. About a fortnight afterwards he presented himself for examination, and reported himself quite well, and passing a good stream without pain or difficulty. On introducing a No. 8 silver catheter, it was brought up with a hitch at the seat of the injury; but after a little manœuvring it slipped suddenly forward, and passed into the bladder. On a subsequent occasion I passed a No. 10, the same slight difficulty occurring.

I am, Sir, your obedient servant,

Christchurch, New Zealand, July 28th, 1877. COURTNEY NEDWILL.

SCIENCE AND FASHION.

THE freaks of fashion are, it must be admitted, but rarely happy, and perhaps not oftener can they be said to be characterised by utility. A novelty stated to have been just introduced in Paris may, however, be taken to be exceptional in both these respects. In that city ladies' bonnets are now trimmed with flowers dipped in chloride of cobalt, which causes them to assume in dry weather a dark-blue colour, and in the humidity preceding rain a pinkish hue. Thus is provided at once an emblem of versatility and a forewarning of change.

Dr. Harding.—We have no means of ascertaining the terms upon which medical practitioners obtain drugs from co-operative stores. The publication of names in the price list is irregular.

THE MEDICAL BOTANIST ACCOUCHEUR.

THIS case, upon which we have already commented, has been fully investigated by the magistrates of Rochdale, the medical botanist, George Brown, having been proceeded against by the Rochdale police on a charge of manslaughter. The only additional fact of consequence brought out was that Brown had made two or three ineffectual efforts to apply the forceps. There was, indeed, yet one other fact of interest—viz., that both the midwife, who was in attendance as a friend, and the husband of the deceased testified that they were of opinion until the occurrence of this case that Brown was a qualified medical man. The Chairman approved the action of the police in taking the matter up; but said, "after hearing the medical evidence on both sides, there was evidently room for difference of opinion as to whether he (Mr. Brown) had done rightly or wrongly, and therefore the case would be dismissed." This result is evidently very much due to the evidence of Mr. W. S. Wade, police surgeon and medical officer of health for Wakefield, who said that the course adopted by Brown was such as would have been adopted by other practitioners. The poor woman died undelivered on Friday evening, after two and a half days of labour. Brown's first use of the forceps was on Thursday. It is bad enough for a mere herbalist to engage formally to attend a woman in her confinement. It is very seriously worse that he should undertake the application of forceps. But, after failing, to continue in charge of such a grave case till death happened, we should have thought, but for the decision of the Bench, was criminal.

A Private Tutor should consult a respectable medical practitioner.

TREATMENT OF ERYSIPELAS AFTER VACCINATION.

To the Editor of THE LANCET.

SIR,—A few years ago, when practising in a colliery district, in which sanitary matters seemed to have had a very limited amount of attention, I attended several cases of erysipelas after vaccination, and, though many of the cases were of such a serious nature that I had no hopes of recovery, all terminated favourably. The treatment in every case was the same. First, having cleared the prima viæ with a dose of castor oil, I put the little ones on the following mixture:—Solution of dilute muriate of iron, half a drachm; disulphate of quinine, half a grain; white syrup, half an ounce; water to two ounces: two drachms to be taken every three hours. An ointment composed of twenty-five grains of sulphate iron to one ounce of lard, spread on a thick layer of cotton-wool, was applied to the inflamed parts, and changed once daily. The local treatment I have learned to look on as very important. The old plan of dusting flour on the parts affected I consider worse than useless, as when it dries it acts as an irritant. The administration of wine in these cases must depend on the character of the disease, whether sthenic or asthenic. Pure air is very essential. The little one should be made to sleep in a cot by itself, and in a room well ventilated. I have never tried bromine, nor shall I be tempted to do so so long as I find such satisfactory results follow the above, which, if "Pro Bono Publico" tries, I feel assured he will be as satisfied with as I am.

I remain, Sir, yours faithfully,

Chester-le-Street, Sept. 1877. W. BENNETT, L.R.C.P.E., &c.

"THE SESSION," ST. PETERSBURG.

NOT less than 450 new students have been "entered" at the Academy of Medicine, St. Petersburg, for the session now beginning. This number is unexampled in the history of the Academy. An impetus for the study of medicine and surgery in Russia appears to have been given by the war with Turkey, now in progress. A large number of senior students of medicine are engaged at the seats of war in Europe and Asia in giving assistance in the different military hospitals, and it would appear as if the opportunity which has thus unexpectedly been afforded to this class of young men of honourably serving their country has prompted others to enter upon a similar course of study.

M.R.C.S. should read Roberts, Bristowe, Tanner, or Watson on Medicine; Leishman or Playfair on Midwifery; Barnes or the chapter in Tanner's Medicine on Diseases of Women; Green on Pathology and Morbid Anatomy; Garrod on Materia Medica; Ringer on Therapeutics; Roscoe or Barff on Chemistry; Guy or Taylor on Medical Jurisprudence; Odling on Chemical Analysis; and Wilson on Public Health. The medical dictionaries of Hoblyn, Mayne, and Dunglison differ only in size.

CURIOUS CASE OF DEVELOPMENT OF PUNGENT AMMONIACAL GAS.

To the Editor of THE LANCET.

SIR,—I and my family have for the last few days been regaling on a consignment of skate or ray, a species of fish to which I am very partial. On our last ration being placed on the table we were almost suffocated by the pungency of ammonia issuing from the fried fish, which was, of course, sent out of the room. I find that the cat and dog ate of it plentifully, and seem none the worse. Now that the residue is cold, the ammoniacal pungency still remains, though not quite so strong. There was not the slightest taint of the odour of animal putrescence, unless the ammonia be an indication and product thereof.

Perhaps this incident, though perplexing to us, may not involve considerations sufficiently interesting to entitle it to your editorial notice. If so, please to excuse my thus troubling you,

I am, Sir, yours truly,

Broseley, Shropshire, Sept. 1877. J. H. MAW.

Mr. Williams.—The position of medical officers in connexion with public institutions, as regards fees for evidence given at inquests on patients dying in these establishments, although from injuries received before admission, is by no means satisfactory. The fee is certainly due; but there is often a disinclination to pay it.

P. J. J.—We have no analysis of the St. Galmier natural mineral water within reach.

AURAL THERAPEUTICS.

DISEASES of the ear and their treatment formed the subject of some practical observations by Dr. J. D. Rushmore at the meeting of the Medical Society of the County of Kings (U.S.A.) in August last. After referring to the fact that aural therapeutics are to a large extent of recent growth, and to the importance of early treatment of troubles affecting the auditory apparatus, Dr. Rushmore spoke of the evidence afforded by the statistics of the Eye and Ear Hospital of the anxiety on the part of the public to have such affections treated earlier in their course. The number of cases admitted (in which there is now a considerably less proportion of those of a chronic character) has increased from 380 in 1868 to 999 in 1876; and the number of polypi has diminished. The author recommended Wilde's incision over the mastoid in persistent pain in the ear, whether there be a purulent collection or not, and mentioned an illustrative case. A boy was brought to the hospital with agonising pain over the mastoid process. He had been suffering from suppuration of the right middle ear for years. The symptoms present indicated absorption of pus. A free incision was made over the mastoid, and although no pus was liberated, and very little hæmorrhage followed the operation, the relief from pain was instantaneous, and the patient afterwards slept well at night, and was saved from immediate danger.

Plymouth.—It would be better to ask some medical friend for information on the subject than to read a work which, being necessarily technical, cannot be rightly understood by a layman.

Anxious Inquirer should apply to the Clerk or Deputy Registrar of the University.

LOSS OF HAIR ON SCALP AFTER RHEUMATIC FEVER.

To the Editor of THE LANCET.

SIR,—Perhaps your correspondent, "M.B., C.M.," would find his patient benefited by some such treatment as the following.

Supposing his patient to be really persevering, and supposing there be no actual disease or destruction of the hair-follicles, we may conclude that the deciduousness of the hair has arisen from anæmia of the scalp, and thence impaired or feeble or suspended function of the follicles. In such cases I have known tincture of perchloride of iron or allied tonics, taken internally, with a stimulant daily and locally applied, to have restored hair-growth which had ceased for a year or two, and converted a scalp almost completely bald into one covered over with hair. The stimulant wash I generally use is an ordinary one composed of rectified spirit, tincture of cantharides (one part to about fourteen), rosemary oil, and elder-flower water, and used with so much friction daily as shall result in warmth and slight redness. In my view no such treatment should be pushed to the stage of persistent tenderness of the scalp, much less to even partial vesication. I have known such an effect not only to disgust the patient, but to prevent that confidence and perseverance without which a successful issue is not to be looked for.

I remain, Sir, yours &c.,

Birmingham, Oct. 2nd, 1877. W. H.

THE POOR-LAW "MEDICAL RELIEF" QUESTION.

WE are receiving statements from workhouse and district medical officers, embodying their views of the working of the "Poor-law" system perpetuated under the Local Government Board. To these representations are appended suggestions pointing out the measures of reform deemed desirable. It may be well to remind our correspondents that we shall avoid attributing special opinions or recommendations to individual writers, unless specifically authorised to make the views of a particular correspondent public. There will, therefore, be no such difficulty in aiding the solution of this great question, as might be supposed to arise from the publication of local and personal grievances. It is desirable that the replies should be returned before the 20th inst., as requested in the leading article on this subject which appeared in THE LANCET of September 15th.

Mr. T. Warner Lacey.—The subscription is a guinea. Apply to the Secretary for all particulars. If the assistant attends a case for a neighbouring practitioner, under the circumstances mentioned, he should have half of the fee.

THE LATE DR. CHARLES MAYO.

To the Editor of THE LANCET.

SIR,—In the various obituary notices of this lamented gentleman there is an omission with reference to what I cannot but consider one of the most important episodes of his life. I allude to the efforts made by him, when house-physician to St. Bartholomew's Hospital, to obtain reform of the out-patient and casualty departments of that institution, and to his consequent dismissal from his post by the governors, as described in THE LANCET at the time. I have reason to know from correspondence which I had with him that, even in after years, he felt keenly the want of support from the public and the profession which he experienced in making that gallant, though for the time fruitless, effort, and it has sometimes been a matter of astonishment to me that no sort of reparation was ever offered to him for the manifest wrong done to him by the governors of the hospital—a wrong which his subsequent brilliant services in various quarters of the globe seem to show has been at least as injurious to their own institution, in depriving it of a most able officer, as it was to his professional prospects in London.

I am, Sir, your obedient servant,

October 1st, 1877. H. NELSON HARDY.

Nemo.—If the sanitary authority possessed an infectious disease hospital, prepared for the reception of patients (as it should do), the servant ought certainly to have been removed there. Our correspondent writes of a "sanatorium"; but we do not gather from his letter whether this is a place for the reception of cases of infectious sickness under the control of the sanitary authority.

Mr. A. P. Barnes will see that his name is not mentioned in the paragraph to which he refers.

"The Grocer's Licence."

It is natural there should be much opposition to the effort to suppress the Grocer's Licence. We are not surprised to find the advocates of this permit as active as ourselves. Nevertheless, we are neither dismayed nor discouraged. The attempt to expose the social evils of this clandestine trade—for such in practice it is—has not only accomplished much good in particular districts, but has, we hope and believe, given the death blow to the licence, although its legal extinction may be deferred. Justices are refusing to sanction applications to the Excise. For this fruit of our endeavours we are sincerely thankful, and in the interests of sobriety and health we look for increasingly satisfactory results.

Treatment of Burns.

To the Editor of The Lancet.

Sir,—By an oversight I have only to-day received The Lancet of last Saturday, and I hasten to answer the inquiry of "F.R.C.P.," addressed to me therein. I am in the habit of using a "saturated solution," as I stated in your columns of the 22nd ult, and this is how I proceed to obtain it of suitable strength: Having provided myself with a basin of cold water, I go on adding to it the bicarbonate (not the carbonate) of soda until no more will dissolve by dint of stirring. When this point is reached, I am satisfied that my solution is of the proper strength, and ready for use. Subsequently—*id est*, as soon as ever the first force of the injury has been subdued (by immersing the affected member into this solution), as is evinced by the sensations of the patient—I soak a roller in the same lotion, and carry it round the limb once or twice lightly, or simply lay it on the part, if more convenient, keeping it constantly wet with our bicarbonate solution. Continue this as long as the patient complains, possibly not longer than many minutes. Should he feel any discomfort when the roller is removed, I either reapply it, soaked as before, or feather the part over with sweet oil, so as to keep it moist.

I wish to take this opportunity of amplifying a sentence which occurred in my letter on the treatment of burns, published in The Lancet of the 22nd ult. Instead of "lime-water, carron oil," &c., it should have read "lime-water and oil (carron oil)," &c.—Yours obediently,

Devon, Oct. 2nd, 1877. Herbert Kiernander, L.R.C.S., &c.

Remarkable Case of Longevity.

To the Editor of The Lancet.

Sir,—Will you kindly allow me to bring under your notice the following remarkable case of longevity, which I met with in my practice during the past fortnight, and which may interest some of your readers.

Mary Egerton, widow, mother of ten children, nine still living, the eldest being over eighty years of age, died in Brownhills, Staffordshire, in her 110th year, in full possession of all her faculties. Her age can be authenticated by three of her children, who reside in this immediate district, as well as by other old residents.—I am, Sir, yours &c.,

Brownhills, Oct. 1st, 1877. D. Edgar Flinn, L.K.Q.C.P., &c.

Communications, Letters, &c., have been received from—Dr. J. Williams London; Dr. Sutherland, Whitehall; Lord Blantyre; Dr. Mackintosh, Downham Market; Mr. Bowles, London; Dr. Eade, Norwich; Mr. Flinn, Brownhills; Dr. Thornley, Newry; Mr. Illingworth, Peterborough; Mr. Wellings, Waterloo; Mr. Williams, Lewisham; Mr. Barnes, Liverpool; Mr. Hemming, London; Mr. Field, London; Dr. Allbutt, Leeds; Mr. George, Ivy-bridge; Mr. Taylor, Woodstock; Mr. Lamb, Birkenhead; Mr. Nunneley, Leeds; Mr. Maclaren, Larbert; Mr. Nedwill, Christchurch, New Zealand; Mr. Bately, Plaistow; Dr. Gairdner, Crieff; Dr. Bramwell, Newcastle; Mr. Leeson, Teddington; Mr. Maw, Broseley; Mr. Tapworth, Bethnal-green; Mr. Berry, Wigan; Lord J. G. Osborne; Dr. Woodward, Worcester; Mr. Remmers, Glasgow; Mr. H. W. Hardy; Dr. Banham, Sheffield; Dr. Gordon, Clapham-road; Mr. Bailey, Durham; Mr. Edwards, London; Dr. W. Barnes, London; Dr. Gillespie, London; Dr. Wilkinson, Sydenham; Mr. Harris, Madras; Dr. Blanc, Bombay; Mr. Porter; Mr. Matson; Dr. Duke; Mr. Smith, Guildford; Mr. Watkin; Mr. Von Hoffman, St. Leonard's-on-Sea; Dr. Murray, Ashfield Beauparc; Mr. Kiernander, Devon; Dr. Smith, Kilburn; Mr. Price, Wolverhampton; Mr. Davis, Boston, U.S.A.; Dr. Tuck, Seaford; Mr. Force; Dr. Denny; Mr. Wilson; Mr. Attwater, Newcastle-on-Tyne; Mr. Payne; Mr. Wylie, Cork; Dr. Cobbold; Mr. Coward, Falmouth; Dr. Cole, Bath; Mr. Dow; Dr. Bennett, Chester-le-Street; Mr. Williams; Dr. Wyld; Mr. Battom; Mr. Jenkinson; Mr. Jackson; Mr. Davies, Aberdare; A Private Tutor; A Youthful Critic; An Advertiser in The Lancet; H. C. M.; Solicitor; The Secretary, Faculty of Physicians and Surgeons, Glasgow; Chemist; Anti-Tobacco Society; The Registrar-General of Births and Deaths; The Dean of the National Dental College; The Registrar-General of Edinburgh; Pax; W. H., Birmingham; Medicus, Devon; &c. &c.

Letters, *each with enclosure*, are also acknowledged from — Mr. Kemm, Corsham; Mr. Allen, Haws; Mrs. Leete, St. Leonard's-on-Sea; Dr. Cory, Buckhurst Hill; Messrs. Robinson and Cleaver, Belfast; Dr. Richmond, Northallerton; Mr. Neame, Ramsgate; Mr. Thorpe, Polperro; Dr. Burder, Bristol; Messrs. Porteous and Co., Glasgow; Mr. Maunder, London; Dr. Taylor, East Dereham; Dr. Coghill, Ventnor; Dr. Lyle; Dr. Harding, Whittlesea; Dr. Fox, Topsham; Mr. Phillips; Mr. Vick, Ipswich; Mr. Vincent; Mr. Lamprey; Dr. Allen; Mr. Alexander; Mr. Douglas; Mr. Page; Mr. Bond; A. B., Bilston; X. Y. Z., York; Medicus L. A.; J. A. C.; Staff Surgeon; Rev. M.A.; R. C. P.; A. D. L.; Medicus, Bradford; L. X. T. Z.; Alpha, Guy's; A. G., Caithness; Omicron; A. W. S.; Vis; H., Sleaford; C. P., Buxton; M.D.; Surgeon; T. T., Manchester; Antiseptic, Scarborough; Travelling Physician; Medicus, Oldham; R. S., Tottenham; M. B., Derby; Medicus; Ross-Hay.

Jersey Express, Derby Mercury, Otago Daily Times, Coleraine Constitution, Sanitary Record, St. Pancras Guardian, Science Gossip, City Press, Newcastle Daily Chronicle, Woman's Gazette, and *Preston Guardian* have been received.

METEOROLOGICAL READINGS

(Taken daily at 8 a.m. by Steward's Instruments.)

The Lancet Office, Oct. 4th, 1877.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Sept. 28	30·34	E.	48	51	86	62	44	...	Foggy
„ 29	30·26	E.	46	47	85	64	43	...	Foggy
„ 30	30·17	S.E.	55	60	97	65	47	...	Fine
Oct. 1	30·19	N.E.	49	51	86	62	46	...	Foggy
„ 2	30·09	N.E.	46	47	74	59	41	...	Foggy
„ 3	30·01	N.W.	41	43	72	59	39	...	Foggy
„ 4	30·18	N.E.	45	47	75	57	40	...	Foggy

Medical Diary for the ensuing Week.

Monday, Oct. 8.

Royal London Ophthalmic Hospital, Moorfields.—Operations, 10½ A.M. each day, and at the same hour.
Royal Westminster Ophthalmic Hospital.—Operations, 1½ P.M. each day, and at the same hour.
St. Mark's Hospital.—Operations, 9 A.M. and 2 P.M.
Metropolitan Free Hospital.—Operations, 2 P.M.
Royal Orthopædic Hospital.—Operations, 2 P.M.

Tuesday, Oct. 9.

Guy's Hospital.—Operations, 1½ P.M., and on Friday at the same hour.
Westminster Hospital.—Operations, 2 P.M.
National Orthopædic Hospital.—Operations, 2 P.M.
West London Hospital.—Operations, 3 P.M.
Royal Medical and Chirurgical Society.—8½ P.M. Dr. A. E. Sansom, "On a Case of Noma, in which Moving Bodies were observed in the Blood during Life."—Mr. Furneaux Jordan, "On two peculiar Varieties of Hydrocele of the Cord."

Wednesday, Oct. 10.

Middlesex Hospital.—Operations, 1 P.M.
St. Mary's Hospital.—Operations, 1½ P.M.
St. Bartholomew's Hospital.—Operations, 1½ P.M., and on Saturday at the same hour.
St. Thomas's Hospital.—Operations, 1½ P.M., and on Saturday at the same hour.
King's College Hospital.—Operations, 2 P.M., and on Saturday at 1½ P.M.
Great Northern Hospital.—Operations, 2 P.M.
University College Hospital.—Operations, 2 P.M., and on Saturday at the same hour.
London Hospital.—Operations, 2 P.M.
Samaritan Free Hospital for Women and Children.—Operations, 2½ P.M.
Hunterian Society.—8 P.M. Mr. Hutchinson, "On certain Diseases of the Tongue, with especial reference to Syphilis and Smoking as Causes."

Thursday, Oct. 11.

St. George's Hospital.—Operations, 1 P.M.
St. Thomas's Hospital.—Ophthalmic Operations, 4 P.M.
Charing-Cross Hospital.—Operations, 2 P.M.
Central London Ophthalmic Hospital.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Oct. 12.

St. George's Hospital.—Ophthalmic Operations, 1½ P.M.
Royal South London Ophthalmic Hospital.—Operations, 2 P.M.
Clinical Society of London.—8½ P.M. Mr. Bryant: "Cases to illustrate the behaviour of the Carbolised Catgut Ligature on Human Arteries."—Dr. Henry Thompson, "On a Case of Hysterical Anæsthesia in a Male."—Dr. G. H. Evans: "Some recent Cases of Paracentesis Thoracis."—Mr. Lawson (for Dr. Aikman), "On a Case of Injury to the lower portion of the Spinal Cord, followed by Wasting and Contraction of the Muscles of the Lower Extremities."

Saturday, Oct. 13.

Royal Free Hospital.—Operations, 2 P.M.

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